

# THE PANAMA CANAL RECORD

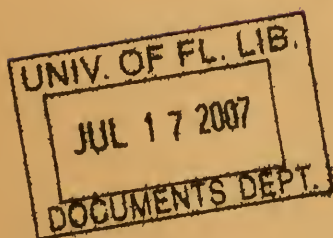
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# THE PANAMA CANAL RECORD

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VOLUME XV

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WITH INDEX

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1922

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## Commercial Traffic Passing Through the Panama Canal During the First Seven Years of its Operation.

The Panama Canal completed seven years of operation at the close of business on August 14, 1921, having been opened to commerce on August 15, 1914. During the seven years of operation the total number of commercial vessels which made the transit through the Canal was 13,416. The aggregate net tonnage of these vessels, according to the rules of measurement of The Panama Canal, was 45,869,942. The cargo which they carried totaled 51,578,920 tons of 2,240 pounds.

The foregoing traffic was made up of 6,388 vessels, of 21,933,325 net tons, carrying 22,215,402 tons of cargo, from the Atlantic to the Pacific, and 7,028 vessels, of 23,936,617 net tons, carrying 29,363,518 tons of cargo, from the Pacific to the Atlantic.

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### Oil Tanker Carries Whole Cargo of Wheat.

The oil tanker *Swiftwind*, operated by C. D. Mallory & Co., is being used for the carriage of grain in bulk. The *Swiftwind* passed through the Canal on August 10 on her maiden voyage, laden with 10,034 tons of wheat, shipped from Portland, via San Francisco, to Spezia, Italy, via Norfolk.

The vessel is of 8,207 tons gross and 5,092 tons net register, 465 feet in length by 60 feet beam, and was drawing 25 feet of water at time of transit. Her cargo of 10,034 tons was in the proportion of 1.97 tons, or approximately 71 bushels per net ton of cargo space. The space of 71 bushels is about 76 cubic feet. As the net ton contains 100 cubic feet, the cargo space was approximately 76 per cent, or three-fourths, filled.

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### From the Mountains of Virginia Through the Panama Canal.

A Canal employee, recently returned from a vacation spent in the United States, has written to THE PANAMA CANAL RECORD:

I visited a town in the upper reaches of the Shenandoah Valley of Virginia. A rural town. Primarily the trading center for one of the rich farming counties of "the granary of the South."

The town has a tannery, two flour mills, and the incubator factory. This last is an old sash and door factory, adapted to the manufacture of giant incubators. Giant incubators are used for the hatching, in 9,000 and 12,000 batches, of the day-old chicks that are now shipped all over the country by parcels post and retailed in the 5 and 10-cent stores.

On the platform of the incubator factory was a "unit," crated and addressed for shipment. Addressed to a firm in Los Angeles, Cal., by way of Baltimore and the Panama Canal.

Obviously it was remarked that the world is a small place, after all. And I reflected that the Canal's good uses are penetrating into our "hinterland."

The president of the company told me they have an order for New Zealand, which will also go by way of the Canal. He says the rate to California is about half the all-rail rate.



# MOVEMENTS OF OCEAN VESSELS. Week ending at midnight, August 13, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                     | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.           |                  | Panama Canal tonnage. |
|---------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------------------|---------------|----------------|------------------|------------------|-----------------------|
|                           | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |                   |               |                | Nature.          | Tons.            |                       |
| San Silvestre.            | 7                | 6.54  | 7              | 8.15  | 7                  | 15.32 | 7                | 18.00 | British.     | Eagle Oil Transportation Co.     | 420.0   | 54.0  | 25.6              | Tampico.      | Valparaiso.    | Fuel oil.        | 7,718            | 6,588                 |
| Reyno Maru.               | 7                | 7.40  | 7              | 8.25  | 7                  | 16.24 | 8                | 17.30 | Japanese.    | Toyo Kisen Kaisha.               | 400.0   | 53.0  | 26.6              | New York.     | Kongkono.      | Cotton, general. | 7,108            | 6,310                 |
| Gaefic Prince.            | 7                | 8.26  | 7              | 13.33 | 7                  | 20.50 | 8                | 21.50 | British.     | Prinze Line, Ltd.                | 475.0   | 57.0  | 28.0              | New York.     | Tanaco, P.I.   | General.         | 9,869            | 9,160                 |
| West Catanaee.            | 8                | 3.25  | 8              | 6.40  | 8                  | 13.40 | 8                | 18.20 | American.    | Elfer Steamship Co.              | 410.0   | 54.0  | 25.0              | Norfolk.      | San Diego.     | Coal.            | 7,467            | 6,867                 |
| Point Adams.              | 6                | 9.39  | 8              | 11.48 | 8                  | 19.05 | 8                | 19.05 | British.     | Pacific Mail Steamship Co.       | 369.0   | 44.0  | 17.2              | Baltimore.    | San Francisco. | General.         | 1,840            | 2,899                 |
| Jamaica.                  | 7                | 8.47  | 9              | 6.07  | 9                  | 14.55 | 9                | 19.30 | British.     | Pacific Steam Navigation Co.     | 220.0   | 34.0  | 14.6              | Santa Marta.  | Buenaventura.  | Salt, general.   | 790              | 1,187                 |
| Kendal Castle.            | 8                | 23.45 | 9              | 6.22  | 9                  | 13.01 | 9                | 17.45 | British.     | The Lancashire Shipping Co.      | 418.0   | 53.0  | 23.4              | New Orleans.  | Manila.        | Cotton, general. | 4,968            | 6,773                 |
| Lake Floris.              | 8                | 23.15 | 9              | 6.22  | 9                  | 13.01 | 9                | 17.45 | American.    | New Orleans & S. A. Line (S.B.). | 251.0   | 43.0  | 18.0              | New Orleans.  | Guayaquil.     | General.         | 1,329            | 2,857                 |
| Cleveland.                | 9                | 7.59  | 9              | 8.15  | 9                  | 15.10 | 10               | 17.51 | American.    | United States Navy.              | 292.0   | 44.0  | 17.0              | Baltimore.    | Balboa.        | Steel, general.  | 702              | 15,234                |
| Buckeye State.            | 9                | 11.21 | 9              | 12.49 | 9                  | 18.56 | 12               | 7.51  | Panaman.     | Nation Navigation Co. (S.B.).    | 518.0   | 72.0  | 23.0              | Baltimore.    | Honolulu.      | General.         | 1,354            | 5,957                 |
| Rio Gaton.                | 9                | 11.41 | 9              | 12.15 | 9                  | 18.28 | 12               | 7.51  | American.    | A. R. Eckert.                    | 360.0   | 52.0  | 21.8              | New York.     | Gatun Lake.    | General.         | 1,354            | 5,957                 |
| Santa Elisa.              | 9                | 15.52 | 10             | 6.08  | 10                 | 12.52 | 10               | 17.55 | British.     | Grace Steamship Co.              | 495.0   | 63.0  | 27.0              | Newport News. | Talcahuano.    | General.         | 11,766           | 7,876                 |
| Corwall.                  | 9                | 18.41 | 10             | 6.50  | 10                 | 13.32 | 10               | 14.50 | American.    | Federal Steam Navigation Co.     | 420.0   | 54.0  | 26.9              | New York.     | Auckland.      | Kerosene, gen.   | 8,000            | 7,340                 |
| Sagadahoe.                | 9                | 14.15 | 10             | 7.00  | 10                 | 17.32 | 13               | 6.49  | American.    | Green Star Steamship Corp.       | 187.0   | 35.0  | 14.0              | Cristobal.    | Yokohama.      | General.         | 2,728            | 8,219                 |
| Kingsfisher.              | 10               | 5.30  | 10             | 7.13  | 10                 | 15.90 | 10               | 16.05 | British.     | United States Navy.              | 450.0   | 55.0  | 24.0              | London.       | Balboa.        | General.         | 392              | 3,013                 |
| Port Lyttelton.           | 7                | 6.14  | 10             | 8.30  | 10                 | 15.37 | 11               | 2.18  | American.    | Commonwealth and Dom. Line.      | 325.0   | 39.0  | 14.6              | New York.     | Buenaventura.  | General.         | 5,396            | 7,118                 |
| General H. F.             | 10               | 7.05  | 10             | 9.30  | 10                 | 17.26 | 10               | 18.40 | American.    | Panama Railroad Steamship Line.  | 412.0   | 57.0  | 23.0              | Galveston.    | Yokohama.      | General.         | 1,560            | 3,429                 |
| Hodges.                   | 10               | 14.45 | 10             | 11.43 | 10                 | 18.12 | 11               | 7.53  | American.    | Dollar Steamship Line.           | 307.0   | 42.0  | 22.6              | Cristobal.    | San Francisco. | General.         | ( <sup>c</sup> ) | 7,658                 |
| Grace Dollar.             | 10               | 13.30 | 10             | 14.00 | 10                 | 20.40 | 11               | 4.09  | American.    | Pacific Mail Steamship Co.       | 402.0   | 53.0  | 15.0              | New Orleans.  | Seattle.       | Ballast.         | 7,658            | 5,372                 |
| Cuba.                     | 7                | 6.31  | 11             | 6.20  | 11                 | 16.47 | 11               | 18.39 | British.     | Frank Warehouse & Co. (S.B.).    | 435.0   | 56.0  | 18.7              | New Orleans.  | Balboa.        | Fuel oil.        | 8,898            | 6,334                 |
| Jaapa.                    | 11               | 6.00  | 11             | 6.50  | 11                 | 16.43 | 11               | 18.39 | British.     | Colombus Shipping Co. (S.B.).    | 482.0   | 58.0  | 22.0              | Liverpool.    | Vancouver.     | Ballast.         | 7,188            | 5,563                 |
| Habira.                   | 11               | 6.09  | 11             | 7.00  | 11                 | 18.34 | 11               | 21.00 | British.     | Harbison Steamship Line.         | 439.0   | 56.0  | 18.0              | Barry.        | San Francisco. | Ballast.         | 6,536            | 7,496                 |
| Niceto de Lar-<br>rimaga. | 11               | 6.32  | 11             | 7.10  | 11                 | 19.30 | 12               | 7.51  | American.    | Larriager and Co., Ltd.          | 410.0   | 54.0  | 26.0              | New York.     | Kobe.          | General.         | 3,000            | 7,091                 |
| Jadden.                   | 11               | 8.22  | 11             | 9.10  | 11                 | 20.10 | 11               | 21.10 | American.    | Barber Steamship Line (S. B.).   | 408.0   | 54.0  | 21.0              | New York.     | Los Angeles.   | General.         | 4,342            | 8,786                 |
| Iowan.                    | 11               | 11.00 | 11             | 11.30 | 11                 | 21.18 | 11               | 22.32 | British.     | United American Line.            | 461.0   | 59.0  | 27.0              | Glasgow.      | Valparaiso.    | General.         | 2,840            | 2,986                 |
| Magellan.                 | 11               | 6.09  | 11             | 7.00  | 11                 | 18.34 | 11               | 21.00 | American.    | Pacific Steam Navigation Co.     | 317.0   | 40.0  | 22.7              | New Orleans.  | Los Angeles.   | General.         | 774              | 4,965                 |
| Frederick.                | 11               | 9.03  | 11             | 11.55 | 11                 | 20.17 | 11               | 21.19 | American.    | Lukenbach Steamship Line.        | 396.0   | 49.0  | 18.9              | Glasgow.      | Colonel.       | Cotton, steel.   | 2,830            | 3,264                 |
| Lukenbach.                | 11               | 6.12  | 11             | 12.09 | 11                 | 21.10 | 11               | 22.10 | British.     | F. & W. Raisen.                  | 305.0   | 41.0  | 20.0              | New York.     | Yokohama.      | General.         | 3,421            | 7,013                 |
| Elder Branch.             | 12               | 10.41 | 12             | 12.25 | 12                 | 20.00 | 12               | 21.28 | Japanese.    | Kokusa Kaizen K. Kaisha.         | 410.0   | 55.0  | 17.3              | Antwerp.      | Valparaiso.    | General.         | 1,294            | 9,089                 |
| Taizan Maru.              | 12               | 6.05  | 12             | 12.30 | 12                 | 18.55 | 13               | 7.32  | Danish.      | Atkes of Ostasiatiska Co.        | 450.0   | 58.0  | 24.8              | New York.     | Valparaiso.    | General.         | 3,809            | 5,117                 |
| Tongking.                 | 12               | 12.20 | 13             | 6.07  | 13                 | 15.03 | 13               | 15.49 | British.     | Pacific Steam Navigation Co.     | 362.0   | 52.0  | 17.8              | Amsterdam.    | Guayaquil.     | General.         | 90               | 132                   |
| Floro.                    | 11               | 23.30 | 13             | 6.10  | 13                 | 16.07 | 14               | 7.31  | Dutch.       | Royal Dutch West India Mail.     | 410.0   | 54.0  | 17.0              | New York.     | Seattle.       | Ballast.         | 7,188            | 5,686                 |
| Heider.                   | 13               | 9.37  | 13             | 9.55  | 13                 | 16.20 | 13               | 22.00 | American.    | Admiral Line (S. B.).            | 81.0    | 25.0  | 9.0               | Cristobal.    | Buenaventura.  | General.         | 7                | 18,400                |
| West Hinrod.              | 6                | 7.45  | 13             | 6.10  | 13                 | 15.11 | 13               | 16.15 | British.     | Pacific Metals Corp.             | 81.0    | 25.0  | 9.0               | Cristobal.    | Buenaventura.  | General.         | 7                | 18,400                |
| Laura C. Hall.            | 6                | 7.45  | 13             | 6.10  | 13                 | 15.11 | 13               | 16.15 | British.     | Pacific Metals Corp.             | 81.0    | 25.0  | 9.0               | Cristobal.    | Buenaventura.  | General.         | 7                | 18,400                |

\* Cruiser.

\* Launched.

\* Mineplanter.

\* Motorship.

\* Motor schooner.

\* Towing tugs No. 49 and No. 50.

\* 18,400 barrels.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                               | 6    | 23 | 10 | 7  | 7  | 25 | 7  | 13 | 45 | 14 | 14 | 05 | British   | Pacific Steam Navigation Co.     | 246.0 | 35.2 | 12.6 | Guayaquil     | Cristobal     | General          | 275    | 1,582  | 1,449 |  |  |
|-------------------------------|------|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------------------------|-------|------|------|---------------|---------------|------------------|--------|--------|-------|--|--|
| Cauca.....                    | 6    | 23 | 50 | 7  | 8  | 40 | 7  | 16 | 05 | 7  | 23 | 30 | British   | Canadian Government.....         | 319.4 | 44.3 | 18.0 | Vancouver     | Montreal      | Lumber, general. | 1,705  | 3,162  | 2,042 |  |  |
| Canadian Voyager.....         | 6    | 17 | 47 | 8  | 6  | 50 | 8  | 13 | 40 | 8  | 16 | 27 | American  | Standard Oil Co.....             | 401.2 | 53.1 |      | Balboa        | Tampico       | Ballast.         | 6,019  | 4,272  |       |  |  |
| Glenpool.....                 | 7    | 22 | 00 | 8  | 7  | 53 | 8  | 15 | 15 | 8  | 15 | 15 | American  | Barber Line (S. B.).....         | 395.5 | 55.0 | 24.7 | Hongkong      | New York      | General          | 6,994  | 6,842  | 4,758 |  |  |
| Wytheville.....               | 7    | 19 | 30 | 8  | 8  | 13 | 8  | 17 | 00 | 9  | 13 | 00 | French    | French Line.....                 | 410.7 | 50.8 | 26.0 | Valparaiso    | Liverpool     | General          | 6,452  | 6,327  | 4,369 |  |  |
| Montana.....                  | 7    | 19 | 30 | 8  | 8  | 13 | 8  | 17 | 00 | 9  | 13 | 00 | French    | French Line.....                 | 410.7 | 50.8 | 26.0 | Valparaiso    | Liverpool     | General          | 6,452  | 6,327  | 4,369 |  |  |
| España <sup>8</sup> .....     | 8    | 7  | 00 | 8  | 8  | 13 | 8  | 18 | 14 | 10 | 8  | 40 | Spanish   | Spanish Navy.....                | 439.6 | 78.8 | 26.7 | Callao        | Spain         |                  |        |        |       |  |  |
| Cristobal.....                | 2    | 16 | 15 | 9  | 6  | 27 | 9  | 14 | 23 | 10 | 15 | 07 | American  | Panama Railroad Steamship Line   | 489.5 | 58.0 | 20.0 | Balboa        | Norfolk       | Ballast.         | 10,696 | 8,063  |       |  |  |
| Kingfisher <sup>9</sup> ..... | 8    | 17 | 15 | 9  | 6  | 36 | 9  | 14 | 15 |    |    |    | American  | United States Government.....    | 187.0 | 35.6 | 14.0 | San Pedro     | Cristobal     |                  |        |        |       |  |  |
| Andrea F.....                 | 9    | 1  | 35 | 9  | 7  | 58 | 9  | 15 | 25 | 9  | 15 | 40 | American  | Luckenbach Steamship Line.....   | 496.0 | 68.2 | 25.0 | Portland      | Philadelphia  | General          | 10,000 | 11,486 | 8,732 |  |  |
| Luckenbach.....               | 9    | 4  | 30 | 9  | 10 | 18 | 9  | 17 | 18 | 9  | 18 | 35 | American  | American Hawaiian Line.....      | 415.0 | 53.7 | 23.6 | Kaunapali     | Boston        | Sugar            | 9,000  | 7,245  | 5,152 |  |  |
| George.....                   | 9    | 9  | 30 | 9  | 11 | 52 | 9  | 18 | 34 | 9  | 18 | 34 | Norwegian | Peter Olsen, Kristiania.....     | 425.5 | 55.3 | 28.6 | San Francisco | United King.  | (12)             | 8,770  | 7,505  | 5,625 |  |  |
| Washington.....               | 9    | 9  | 41 | 9  | 11 | 35 | 9  | 18 | 38 | 9  | 18 | 38 | American  | N. Atl. & West. S. S. Co. (S.B.) | 400.7 | 54.2 | 19.6 | Seattle       | Baltimore     | General          | 3,462  | 6,529  | 4,737 |  |  |
| Yalza.....                    | 9    | 9  | 41 | 9  | 11 | 35 | 9  | 18 | 38 | 9  | 18 | 38 | American  | N. Atl. & West. S. S. Co. (S.B.) | 400.7 | 54.2 | 19.6 | Seattle       | Baltimore     | General          | 3,462  | 6,529  | 4,737 |  |  |
| Swiftwind.....                | 10   | 1  | 50 | 10 | 8  | 55 | 10 | 16 | 25 | 10 | 20 | 10 | American  | Swifsure Oil Trans. Co. (S. B.)  | 385.0 | 60.2 | 25.0 | Portland      | Spezia, Italy | Wheat            | 10,034 | 8,473  | 5,997 |  |  |
| Rafiki Maru.....              | 10   | 14 | 15 | 10 | 15 | 01 | 10 | 21 | 50 | 10 | 21 | 50 | Japanese  | Kokusa Kisen Kaisha.....         | 464.0 | 51.0 | 26.0 | Portland      | Norfolk       | Wheat            | 7,293  | 5,933  | 4,559 |  |  |
| Nedra.....                    | 3    | 13 | 04 | 11 | 7  | 01 | 11 | 13 | 22 | 11 | 14 | 05 | American  | United States Navy.....          | 476.0 | 56.0 |      | Balboa        | Hampton Rds.  | Ballast          | 4,557  | 9,057  | 6,438 |  |  |
| Kaikoura.....                 | 10   | 14 | 30 | 11 | 6  | 58 | 11 | 16 | 05 | 11 | 18 | 00 | British   | New Zealand Shipping Co.....     | 460.0 | 58.2 | 21.0 | Auckland      | Southampton   | (14)             |        |        |       |  |  |
| Arkansas <sup>8</sup> .....   | 2    | 6  | 00 | 11 | 8  | 31 | 11 | 16 | 50 | 11 | 16 | 50 | American  | United States Navy.....          | 554.0 | 93.2 | 31.0 | San Diego     | New York      |                  |        |        |       |  |  |
| Wyoming <sup>8</sup> .....    | 2    | 6  | 00 | 11 | 9  | 14 | 11 | 17 | 40 | 11 | 17 | 40 | American  | United States Navy.....          | 554.0 | 93.2 | 31.0 | San Diego     | New York      |                  |        |        |       |  |  |
| Affinity <sup>12</sup> .....  | 11   | 19 | 30 | 12 | 8  | 25 | 12 | 16 | 15 | 12 | 20 | 40 | Dutch     | Holland American Line.....       | 469.6 | 58.2 | 25.0 | Yancover      | Hambourg      | General          | 8,975  | 8,514  | 6,066 |  |  |
| Port Kembla.....              | 12   | 6  | 30 | 12 | 8  | 57 | 12 | 17 | 10 | 12 | 18 | 38 | British   | Commonwealth and Dom. Line.....  | 481.2 | 62.3 | 28.0 | Sydney        | London        | (15)             | 8,103  | 10,708 | 8,116 |  |  |
| Habira.....                   | 11   | 16 | 47 | 12 | 10 | 56 | 12 | 18 | 18 | 12 | 18 | 18 | American  | Colombus Steamship Co. (S.B.)    | 435.5 | 56.2 |      | Balboa        | Tecumate      | Ballast          | 5,009  | 3,899  | 2,853 |  |  |
| Tancred.....                  | 12   | 16 | 35 | 13 | 6  | 22 | 13 | 14 | 30 | 13 | 16 | 30 | Norwegian | W. Wilhelmsen.....               | 334.0 | 48.0 | 22.0 | Balboa        | Ipswich       | Barley           | 481    | 3,666  | 2,577 |  |  |
| Palena.....                   | 13   | 3  | 30 | 13 | 7  | 56 | 13 | 14 | 52 |    |    |    | Chilean   | Chilean Line.....                | 350.0 | 42.1 | 19.0 | Talcahuano    | Cristobal     | General          |        |        |       |  |  |
| Dolphin <sup>12</sup> .....   | 7-14 | 14 | 15 | 13 | 8  | 06 | 13 | 17 | 42 | 13 | 17 | 42 | American  | United States Navy.....          | 256.0 | 33.0 | 17.0 | Balboa        | Port Limon    |                  |        |        |       |  |  |
| Denver <sup>10</sup> .....    | 6-19 | 7  | 25 | 13 | 8  | 29 | 13 | 16 | 05 | 13 | 16 | 05 | American  | United States Navy.....          | 292.0 | 44.0 | 17.0 | Balboa        | Cristobal     |                  |        |        |       |  |  |
| Tacoma <sup>1</sup> .....     | 4-4  | 13 | 8  | 43 | 13 | 16 | 10 | 13 | 19 | 00 |    |    | American  | United States Navy.....          | 292.0 | 44.0 | 17.0 | Balboa        | Cristobal     |                  |        |        |       |  |  |
| Orita.....                    | 5-13 | 12 | 01 | 13 | 13 | 11 | 13 | 20 | 10 | 13 | 8  | 54 | British   | Pacific Steam Navigation Co..... | 485.4 | 58.2 | 25.0 | Valparaiso    | Liverpool     | (16)             | 4,072  | 9,936  | 6,561 |  |  |

\* Battleship.  
 9 Mine sweeper.  
 10 Cotton, wool, barley, and oats.

11 Launch.  
 12 Gunboat.  
 13 Barley, coffee, and general.  
 14 Frozen meat, general.  
 15 General meat, cheese, wool, tallow, grain, etc.  
 Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

## \*ARRIVALS.

| Date.         | Vessel.       | Line. | From—               | Date.          | Vessel.       | Line.                  | For—                     |
|---------------|---------------|-------|---------------------|----------------|---------------|------------------------|--------------------------|
| August 7..... | Allianca..... |       | New York via Haiti. | August 7.....  | Camden.....   | United Fruit Co.       | Tampico.                 |
| August 7..... | Arenas.....   |       | New Orleans.        | August 7.....  | Atenas.....   | United Fruit Co.       | Bocas del Toro.          |
| August 8..... | Martique..... |       | Have.               | August 9.....  | Lucellum..... | H. E. Moss & Co.       | Tampico.                 |
| August 8..... | Cartago.....  |       | New Orleans.        | August 9.....  | Atenas.....   | United Fruit Co.       | New Orleans.             |
| August 9..... | Ulua.....     |       | New York.           | August 10..... | Ulua.....     | United Fruit Co.       | New York via Port Limon. |
| August 9..... | Lucellum..... |       | Curacao.            | August 11..... | Martique..... | French Steamship Line. | Puerto Colombia.         |

Continued on page 8, column 2

### **The "Renaico" to Sail for Norfolk and European Ports.**

The steamship *Renaico* of the South American Steamship Co. (Chilean Line) is due to sail from Cristobal for Norfolk on August 18. She is on a voyage from Valparaiso to Norfolk, Havre, London, Antwerp, and Hamburg, carrying passengers and cargo. The *Renaico* has been plying between Valparaiso and New York, and the present voyage is in the expectation of developing better trade out of the European ports.

The company offers a reduced rate of \$70 for first-class transportation from Cristobal to Norfolk for employees of The Panama Canal and the Panama Railroad Company; to others the first-cabin rate is \$100. The *Renaico* is of 5,919 gross tons, 431 feet in length by 51 feet beam. She was built at Sunderland in 1898 and was formerly the *Nippon Maru*.

### **Trinidad Ships Sugar to Vancouver.**

Two thousand tons of sugar for Vancouver, B. C., from Port of Spain, Trinidad, made up the cargo of the steamship *Canadian Traveller*, passing through the Canal on August 3.

Port of Spain is 1,159 nautical miles from the Atlantic end of the Canal, and Vancouver is 4,032 miles from the Pacific end.

### **Coal for Bunkering at San Juan, Porto Rico.**

The Executive Secretary of the Government of Porto Rico advises that the port of San Juan, P. R., has on hand now approximately 6,500 tons of coal, available for bunkering vessels moving to or from the Canal. The price is not stated. He also reports that a local coal company has advised that it will add to its equipment in the near future a new barge of 1,000 tons capacity, "which will put them in position to bunker vessels at a rate of 300 tons of coal per hour."

San Juan is 993 nautical miles from Cristobal.

### **The "Olockson" Reported Sold.**

The Shipping Board steamship *Olockson* is reported sold to D. J. Hanlon, in a recent issue of *Nauticus*. No price was stated.

The *Olockson* caught fire on March 13, 1920, beyond Cape Mala, after passing through the Canal. She was towed back to the outer harbor at Balboa by the tug *Gorgona*, and sunk in order to extinguish the fire. After the ship was raised and her cargo discharged, a survey led to the decision that she was not worth rebuilding. She was then towed to anchorage in the outer harbor and has been there since. No advice of her sale has been received by the Canal authorities.

### **Coal at St. Lucia.**

The agent of the Royal Mail Steam Packet Company states that he has received cable advice from a coaling company at St. Lucia, B. W. I., to the effect that its stock of coal is 2,400 tons, the total stock in port being 8,500 tons. The price, effective August 1, is 77 shillings per ton.

### **Executive Order.—Authorizing the Requirement of Crew Lists.**

Amending the provisions of the Executive Order of August 8, 1918, concerning travel between the United States and neighboring countries, and authorizing the requirement of crew lists.

By virtue of the authority vested in me by the Act of Congress approved the twenty-second day of May, one thousand, nine hundred and eighteen,<sup>2</sup> entitled, "An Act to Prevent in Time of War Departure From and Entry into the United



States Contrary to Public Safety," and with reference to the Presidential Proclamation and Executive Order of August eight, one thousand, nine hundred and eighteen, adopted in pursuance thereof, I hereby prescribe the following amendments to said Executive Order:

\* \* \* \* \*

### III—CREW LISTS.

1. Masters of vessels of all nationalities sailing for a port of the United States of America or of any of its possessions, except the Panama Canal Zone, must submit for visa a list of all of the alien members of the vessel's crew to the American consular officer at the port from which the vessel commences its voyage. If there is no American consular officer stationed at that port, the crew list should be submitted at the first port of call (if the vessel touches at any other port) where an American consular officer is located. This does not refer to consular agents, who are not authorized to visa crew lists.

2. When a vessel sails from a port where no American Consul is stationed, but which is within a few hours reach by mail of an American Consulate, so that unreasonable delay and serious loss would not result from referring the crew list to such Consulate, it should be referred thereto for visa.

3. If an alien seaman whose name is not included in a visaed crew list arrives at a port of the United States he shall not be allowed to land except upon the permission of the Secretary of State.

WARREN G. HARDING.

THE WHITE HOUSE,  
June 25, 1921.

<sup>1</sup> Published as Panama Canal Circular No. 601-80.

<sup>2</sup> Published as Panama Canal Circular No. 600-49.

<sup>3</sup> Published as Panama Canal Circular No. 601-79.

The Executive Order above, of June 25, 1921, has been published as Panama Canal Circular No. 601-123, dated August 10, 1921.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending August 13, 1921.

| Name of vessel.           | Line or charterer.                | Arrived.       | Departed.      | Cargo—           |                  |
|---------------------------|-----------------------------------|----------------|----------------|------------------|------------------|
|                           |                                   |                |                | Discharged.      | Laded.           |
|                           |                                   |                |                | <i>Tons.</i>     | <i>Tons.</i>     |
| Salvador.....             | Pacific Steam Navigation Co.....  | August 14..... | August 14..... |                  | 6½               |
| Lucellum.....             | Anglo Saxon Petroleum Co.....     | August 9.....  | August 9.....  |                  | ( <sup>2</sup> ) |
| Cuba.....                 | Pacific Mail Steamship Co.....    | August 10..... | August 10..... |                  | 42               |
| Camden.....               | United Fruit Co.....              | August 8.....  | August 8.....  |                  | ( <sup>2</sup> ) |
| Point Adams.....          | Pacific Mail Steamship Co.....    | August 8.....  | August 8.....  |                  | 288              |
| Camito.....               | United Fruit Co.....              | August 6.....  | August 6.....  |                  | 1                |
| Quilpue.....              | Pacific Steam Navigation Co.....  | August 7.....  | August 7.....  |                  | 24               |
| General H. F. Hodges..... | Panama Railroad Steamship Line..  | August 7.....  | August 10..... | 504              | 42               |
| Atenas.....               | United Fruit Co.....              | August 7.....  | August 7.....  | 160              | 21               |
| Allianca.....             | Panama Railroad Steamship Line..  | August 7.....  | August 13..... | 1,442½           | ( <sup>2</sup> ) |
| Hahaira.....              | United States Shipping Board..... | August 7.....  | August 11..... | 8,066            | ( <sup>2</sup> ) |
| Jamaica.....              | Pacific Steam Navigation Co.....  | August 7.....  | August 9.....  | 151              | 137½             |
| Cauca.....                | Pacific Steam Navigation Co.....  | August 7.....  | August 9.....  | 274              | ½                |
| Martinique.....           | French Steamship Line.....        | August 8.....  | August 11..... | 64               | 23               |
| Cartago.....              | United Fruit Co.....              | August 8.....  | August 11..... | 1,723            | 90               |
| Ulua.....                 | United Fruit Co.....              | August 9.....  | August 10..... | 312              | 176              |
| Atenas.....               | United Fruit Co.....              | August 10..... | August 10..... | ( <sup>1</sup> ) | 8                |
| Santa Marta.....          | United Fruit Co.....              | August 10..... | August 11..... | 66               | 248              |
| Sixola.....               | United Fruit Co.....              | August 10..... | August 11..... | 78               |                  |
| Montevideo.....           | Spanish Steamship Line.....       | August 11..... | August 12..... | 247              | 497              |
| Ebro.....                 | Pacific Steam Navigation Co.....  | August 12..... | August 13..... | 98               | ( <sup>2</sup> ) |
| Tongking.....             | United Fruit Co.....              | August 12..... | August 12..... | 106              | ( <sup>2</sup> ) |
| Helder.....               | Royal Dutch West India Mail.....  | August 12..... | August 13..... | 311              | ( <sup>2</sup> ) |
| Balboa.....               | Panama Railroad Steamship Line..  | August 13..... | August 13..... | 445              |                  |
| San Bruno.....            | United Fruit Co.....              | August 13..... | August 13..... | 53               | ½                |
| Palena.....               | United Fruit Co.....              | August 13..... | August 13..... | 480              |                  |
| Abangarez.....            | United Fruit Co.....              | August 14..... | August 14..... | 1½               |                  |
| Essequibo.....            | Pacific Steam Navigation Co.....  | August 14..... | August 14..... | 3                | 97½              |
| Barima.....               | Pacific Steam Navigation Co.....  | August 14..... | August 14..... |                  | ½                |

<sup>1</sup> 175 pounds.

<sup>2</sup> No cargo laded.

#### Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending August 13, 1921.

| Name of vessel.    | Line or charterer.                | Arrived.       | Departed.      | Cargo—       |              |
|--------------------|-----------------------------------|----------------|----------------|--------------|--------------|
|                    |                                   |                |                | Discharged.  | Laded.       |
|                    |                                   |                |                | <i>Tons.</i> | <i>Tons.</i> |
| Glenpool.....      | Standard Oil Co. ....             | August 7.....  | August 8.....  | 7,000        | .....        |
| Cauca.....         | Pacific Steam Navigation Co. .... | August 7.....  | August 7.....  | 8            | .....        |
| Buckeye State..... | United States Shipping Board..... | August 9.....  | August 11..... | .....        | 5            |
| Jamaica.....       | Pacific Steam Navigation Co. .... | August 9.....  | August 9.....  | .....        | 43           |
| Cuba.....          | Pacific Mail Steamship Co. ....   | August 10..... | August 10..... | 27           | 32           |
| Palena.....        | Chilean Steamship Line.....       | August 13..... | August 13..... | 51           | .....        |

### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended August 13:

Steamship *Buckeye State*, roll tubes in one boiler; repair blower engine and feed pumps; *Hampton Roads*, repair blower engine and anchor; *Apus*, braze 4 patches on leaky copper deck exhaust expansion bend.

#### PREVIOUSLY REPORTED.

Steamship *Panama*, reboiling and general overhaul to machinery and hull; steamer *Gen. George W. Getty*, miscellaneous engineer's department and hull repairs; U. S. subchaser *V-12*, docking and general repairs to hull and machinery; tug *Coco Solo*, manufacture 3 eccentric rods for generators and electric weld back end of boilers; launches *P-1*, rebuilding of hull; *Pacific*, general repairs to hull; mine planter *Graham*, docking and miscellaneous repairs; steamship *Cristobal*, miscellaneous deck, steward's, and engineer's department repairs; dredge *Paraíso*, docking and hull repairs.

The following vessels were at the Cristobal shops for repairs during the week ended August 13:

Steamships *Advance*, *Achilles*, *Cristobal*, *Allianca*, and *Ulysses*, miscellaneous repairs and painting to engine, deck and steward departments; U. S. S. *Eagle No. 31*, dock and undock, clean and paint bottom, overhaul sea valves and zincs, repair 4 mud drum casings, build up holes for pins in planetary gear pins; turn small end of pin down  $\frac{1}{8}$ " smaller than bearing, assemble reduction gear; unship old tail shaft, fit and install new, lining same up from reduction gear aft; steamship *Salvador*, cast and machine 2 winch cylinders as per sample; tug *Favorite*, repair towing engine; steamships *Balboa*, dock and undock, clean and paint, take up lost motion in valve gear, steering engine, manufacture and install liners on sides of low pressure slide valve main engine and take up lateral play, repair sea suction valve, aft circulating pumps, manufacture 4 ash pit doors, drill holes in stanchions under upper bridge and install pins as directed, etc.; U. S. S. *Eagle No. 4*, renew brick work in boilers, etc.; Steamships *Cartago*, *Yalza*, and motor ship *Scotia Maiden*, minor repairs.

#### PREVIOUSLY REPORTED.

Steamship *Caribbean*, miscellaneous repairs, including dry-docking; motor ship *Satoe*, general overhauling including dry-docking; barge *No. 117*, renew plates, etc.; U. S. S. *Forse*, miscellaneous repairs including dry-docking; barge *No. 19*, renew plates, etc.; motor ship *Lima*, general overhauling, including dry-docking.

### Notice to Mariners.—Speed of Vessels in Canal.

THE PANAMA CANAL, BALBOA HEIGHTS, C. Z., August 8, 1921.

CIRCULAR No. 643-91 (Superseding Circular No. 643-70.):

1. By virtue of the authority conferred on me by Paragraph 102 of the Executive Order of July 9, 1914, establishing Rules and Regulations for the Operation and Navigation of the Panama Canal and Approaches thereto, including all waters under its jurisdiction, vessels transiting the Panama Canal hereafter shall not exceed the following speeds:

|                                             | Knots per hour. |
|---------------------------------------------|-----------------|
| Colon to Gatun Locks.....                   | 6               |
| Gatun Lake, in the 1,000-foot channels..... | 15              |
| Gatun Lake, in the 800-foot channels.....   | 12              |

|                                           | Knots per hour. |
|-------------------------------------------|-----------------|
| Gatun Lake, in the 500-foot channels..... | 10              |
| Rounding Bohio and Darien Bends.....      | 6               |
| Gaillard Cut:                             |                 |

|                                                           |   |
|-----------------------------------------------------------|---|
| Straight Reaches: Vessels 250 feet or more in length..... | 6 |
| Vessels less than 250 feet in length.....                 | 8 |

Rounding Bends: (all vessels) Slowest speed at which steerageway can be maintained.

#### Miraflores Lake:

Slowest speed at which steerageway can be maintained.

Vessels 360 feet or less in length and less than 20 feet draft shall not cross Miraflores Lake in less than 10 minutes.

Larger vessels shall not cross Miraflores Lake in less than 15 minutes.

Vessels of exceptional size or displacement shall not cross Miraflores Lake in less than 20 minutes.

|                                                    |   |
|----------------------------------------------------|---|
| Miraflores Locks to Pacific entrance to Canal..... | 6 |
| Entering or leaving port.....                      | 6 |

2. Increase to 8 knots in speed in Gaillard Cut, in the case of vessels less than 250 feet long, does not alter the obligation imposed by regulations upon all vessels to reduce to lowest speed at which vessel can be steered, on occasion of approaching and passing vessels underway in narrow reaches, or vessels or other floating equipment when tied up, or under other circumstances, where a higher speed might introduce risk of damage.

JAY J. MORROW,  
Governor.

### Civil Service Examinations.

The following examinations are announced by the United States Civil Service Commission. Bulletins giving details of the examinations for positions for which there are likely to be a number of qualified persons on the Isthmus are posted at Canal post offices and clubhouses. In cases where such announcements are not posted, persons interested may obtain data on application to the Board of Civil Service Examiners, Balboa Heights, C. Z. (telephone 286).

Computer (male and female); \$1,400 to \$2,000 a year; form 1312; announcement No. 323; age below 55 years; vacancies in Coast and Geodetic Survey, Washington, D. C., or Manila, P. I., September 21, 1921.

Die and tool maker (male and female); \$6.25 per diem; form 1800; announcement No. 362; age, 20 but not 50 years; vacancies in equipment shops, Post Office Department, Washington, D. C., August 30, 1921.

Lithographic draftsman (male and female); \$1,400 a year; form 1312; age, 18 but not 55 years; vacancies in Hydrographic Office, Navy Department, Washington, D. C., September 13, 1921.

Marine engineer (motor) (male and female); \$140 a month; form 1312; announcement No. 363; age, 25 but not 50 years; vacancies in Coast and Geodetic Survey, Seattle, Wash., August 30, 1921.

Production engineer (male and female); \$9.76 per diem; form 1312; announcement No. 361; age, 23 but not 55 years; vacancies in hot metal division, Naval Ordnance Plant, South Charleston, W. Va., August 30, 1921.

Silviculturist, \$3,000 to \$3,840 a year; associate silviculturist, \$2,400 to \$2,880 a year; assistant silviculturist, \$1,800 to \$2,280 a year (male and female); forms 1312 and 2118; age, 25 but not 45 years; vacancies in Forest Service, Department of Agriculture, September 13, 1921.

<sup>1</sup>Nonassembled. Date given for nonassembled examinations is the last day for filing applications and they must be in the hands of the Commission at Washington prior to the hour of closing business on that date.

### Deceased Employees.

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

| Name.                       | Check No. | Native of—     | Isthmian residence. | Employed by—          | Date of death.  |
|-----------------------------|-----------|----------------|---------------------|-----------------------|-----------------|
| Alexander Emanuel Kerr..... | 25173     | Jamaica.....   | Colon.....          | Panama Railroad.....  | July 20, 1921.  |
| Amos Erskine.....           | 44218     | Jamaica.....   | Colon.....          | Panama Railroad.....  | July 17, 1921.  |
| Anthony Jacobs.....         | 29213     | Antigua.....   | Colon.....          | The Panama Canal..... | July 22, 1921.  |
| Miguel Heraso.....          | 53678     | Panama.....    | Colon.....          | Panama Railroad.....  | July 25, 1921.  |
| Alexander Pickett.....      | 22675     | St. Lucia..... | La Boca.....        | Panama Railroad.....  | August 1, 1921. |

## Official Circulars.

### Acting Marine Superintendent.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., August 10, 1921.  
To all concerned—Effective August 11, 1921,  
and during the absence of Capt. E. P. Jessop,  
U. S. N., on leave, Commander S. L. Henderson,  
U. S. N., in addition to his duties as Port Captain,  
Balboa, will act as Marine Superintendent, The  
Panama Canal.

JAY J. MORROW,  
Governor.

### Acting Captain of the Port, Cristobal.

THE PANAMA CANAL,  
DEPT. OF OPERATION AND MAINTENANCE,  
BALBOA HEIGHTS, C. Z., August 8, 1921.  
To all concerned—Effective this date and during  
the absence on leave of Commander F. V. Mc-  
Nair, U. S. N., Assistant Port Captain H. L.  
Eden will act as Captain of the Port, Cristobal.

E. P. JESSOP,  
Marine Superintendent.

Approved:  
JAY J. MORROW,  
Governor.

### Hogs For Sale.

The following hog stock is offered for sale, f. o. b.  
the Margarita hog farm:  
6 grade boars, three-quarters Duroc, 1 year  
old.

14 grade boars, bred from three-quarters  
Duroc sow and full-blooded Hampshire boar, from  
3 to 6 months old.

3 boars, seven-eighths Duroc, 4 to 5 months  
old.

For further information inquire at the Cattle  
Industry office in Cristobal.

### Eggs for Setting.

For a limited period only purchases of eggs  
for setting may be made at the Summit poultry  
farm at the following prices:

White Leghorn or Rhode Island Red, per set-  
ting of 15 eggs, \$3; two settings, or 30 eggs, \$3.50.  
All sales f. o. b. Summit.

### Empty Barrels and Packing Cases For Sale.

Address inquiries to Chief Quartermaster,  
The Panama Canal, Balboa Heights, C. Z.

### Sale of Lumber.

The Panama Canal has on hand at Balboa  
storehouse considerable quantities of 1" x 6"  
1" x 8", and 1" x 10" dressed lumber, Douglas  
fir, grade 1, select common. Further informa-  
tion will be furnished by General Storekeeper,  
Balboa, or at office of Chief Quartermaster,  
Balboa Heights.

### Additions to Commissary Stock.

#### Dry Goods Section.

|                                                    |        |
|----------------------------------------------------|--------|
| Candles, birthday, box.....                        | \$0.33 |
| Dictionaries, ea.....                              | .40    |
| Hose, black, ladies', pr.....                      | .37    |
| Sheeting, muslin, unbleached, 81" wide,<br>yd..... | .60    |

#### Grocery Section.

|                      |     |
|----------------------|-----|
| Honey, pint bot..... | .57 |
|----------------------|-----|

#### Hardware Section.

|                                   |     |
|-----------------------------------|-----|
| Turners, cake, ea.....            | .22 |
| Rugs, Universal, T. & W., ea..... | .43 |

\* Indicates 7 cents allowed for return of bottle.

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 3.

PORT OF CRISTOBAL.—Continued.

| *ARRIVALS. |                       |                                |                        | *DEPARTURES.    |                       |                                 |                                 |
|------------|-----------------------|--------------------------------|------------------------|-----------------|-----------------------|---------------------------------|---------------------------------|
| Date.      | Vessel.               | Line.                          | From—                  | Date.           | Vessel.               | Line.                           | For—                            |
| August 10. | Atenas                | United Fruit Co.               | Bocas del Toro.        | August 11.      | Sixola                | United Fruit Co.                | New York via Kingston.          |
| August 10. | Sixola                | United Fruit Co.               | New York.              | August 11.      | Santa Marta           | United Fruit Co.                | New York via Cuban ports.       |
| August 10. | Santa Marta           | United Fruit Co.               | New York.              | August 11.      | Cartago               | United Fruit Co.                | New Orleans via Bocas.          |
| August 11. | Monterideo.           | Cia Transatlantica de Vapores. | Habana.                | August 12.      | Killing               | Lindsay Swan & Hunter.          | Kingston.                       |
| August 12. | San Bruno             | United Fruit Co.               | Kingston.              | August 12.      | Alliance              | Panama Railroad Steamship Line. | New York via Haiti.             |
| August 13. |                       |                                | Boston via Port Limon. | August 13.      | Montevideo            | Cia Transatlantica de Vapores.  | Ponce via Puerto Colon-<br>bia. |
|            |                       |                                |                        | August 13.      | San Bruno             | United Fruit Co.                | Boston.                         |
|            |                       |                                |                        | PORT OF BALBOA. |                       |                                 |                                 |
| August 8.  | Arizona <sup>a</sup>  | United States Navy.            | Callao.                | August 11.      | Arizona <sup>a</sup>  | United States Navy.             | San Francisco.                  |
| August 8.  | Oklahoma <sup>a</sup> | United States Navy.            | Callao.                | August 11.      | Oklahoma <sup>a</sup> | United States Navy.             | San Francisco.                  |
| August 8.  | Nevada <sup>a</sup>   | United States Navy.            | Callao.                | August 11.      | Nevada <sup>a</sup>   | United States Navy.             | San Francisco.                  |

<sup>a</sup> Battleship.

\* Other than ships passing through the Canal.



# THE PANAMA CANAL RECORD



OFFICIAL PUBLICATION OF THE PANAMA CANAL.  
PUBLISHED WEEKLY.

Subscription rates, domestic, \$1.50 per year; foreign, \$2.00; address  
The Panama Canal Record, Balboa Heights, Canal Zone, or  
The Panama Canal, Washington, D. C.

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at Cristobal, C. Z., under the Act of March 3, 1879.



Volume XV. Balboa Heights, C. Z., August 24, 1921.

No. 2.

## Important Reductions in Charges at 1,000-foot Dry Dock.

Substantial reductions in the charges for dry-docking in the 1,000-foot dry dock at Balboa have been made effective August 15. The new rates are contained in Supplement No. 1 to Tariff No. 5, which is published in this issue.

The most important rates established by the new order are for docking and undocking, and for each lay day. These are levied on the gross tonnage of merchant steamers and Army and Navy transports, colliers, hospital ships and supply ships; on the net tonnage of merchant sailing vessels; and on the actual displacement tonnage of warships which are ordinarily measured in displacement tonnage. For each of the classes the previous charge for docking and undocking was 25 cents per ton; and the charge for each lay day was 15 cents per ton. These rates have been reduced, respectively, to 15 cents and 12 cents. In the charge for docking and undocking the new rate is 60 per cent of the old. For each lay day the new rate is 80 per cent of the old.

The charge "for docking and undocking," 15 cents per ton, covers the two operations of docking and undocking in the one rate; the charge is not levied twice, once for docking and again for undocking, but both are included in the one charge.

The establishment of the new rates indicates a change of policy, in basing the charges at the Balboa dry dock on customary rates in commercial dry docks on the Atlantic, rather than on rates at Pacific docks, as heretofore.

## Population of the Canal Zone.

A survey of the population of the Canal Zone, made by the police between June 10 and June 30, 1921, resulted as follows:

|                       | AMERICANS. |                 |              |                 |                | ALL OTHERS. |                 |              |                 |                | Total. |
|-----------------------|------------|-----------------|--------------|-----------------|----------------|-------------|-----------------|--------------|-----------------|----------------|--------|
|                       | Total men. | Em-<br>ployees. | Total women. | Em-<br>ployees. | Child-<br>ren. | Total men.  | Em-<br>ployees. | Total women. | Em-<br>ployees. | Child-<br>ren. |        |
| Balboa District.....  | 2,022      | 1,851           | 2,065        | 279             | 2,048          | 3,105       | 2,227           | 2,071        | 44              | 3,169          | 4,401  |
| Cristobal District... | 768        | 748             | 607          | 44              | 613            | 3,036       | 2,866           | 1,480        | 22              | 2,608          | 14,480 |
| Prisoners .....       | 35         |                 |              |                 |                | 128         | 9               | 2            |                 |                | 3,680  |
| Total employees.....  | 2,599      |                 | 323          |                 |                | 5,102       |                 | 66           |                 |                | 9,112  |
| Total persons....     | 2,825      |                 | 2,672        |                 | 2,661          | 6,269       |                 | 3,553        |                 | 5,777          | 165    |

\* Includes 256 civilian employees of United States Army.

The population of the Gatun Lake region outside the Canal Zone is 3,250, of whom 32 are Americans.

# MOVEMENTS OF OCEAN VESSELS. Week ending at midnight, August 20, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.             | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line.                          | Length. | Beam. | Salt draft. | From—          | For—            | Cargo.           |       | Panama Canal tonnage. |       |
|-------------------|------------------|-------|----------------|-------|--------------------|-------|--------------|--------------------------------|---------|-------|-------------|----------------|-----------------|------------------|-------|-----------------------|-------|
|                   | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |                                |         |       |             |                |                 | Nature.          | Tons. | Gross.                | Net.  |
| Salvador.         | 5                | 15    | 05             | 14    | 14                 | 12    | 30           | Pacific Steam Navigation Co.   | 215.0   | 33.0  | 13.0        | Cristobal.     | Guayaquil.      | General.         | 430   | 1,213                 | 692   |
| Viken.            | 14               | 6     | 51             | 14    | 8                  | 23    | 14           | Transatlantic Steamship Co.    | 385.0   | 52.0  | 25.6        | Galveston.     | Sydney.         | Sulphur.         | 6,300 | 3,820                 | 4,249 |
| Bertha.           | 7-18             | 21    | 20             | 14    | 8                  | 55    | 14           | Pacific Steam Navigation Co.   | 220.0   | 37.0  | 12.3        | Cristobal.     | Champerico.     | General.         | 4,486 | 1,661                 | 918   |
| Thames.           | 14               | 8     | 19             | 14    | 9                  | 15    | 14           | Alfred Holt & Co.              | 440.0   | 52.0  | 29.0        | New York.      | Yokohama.       | General.         | 5,440 | 7,421                 | 5,406 |
| Couca.            | 7                | 13    | 45             | 14    | 14                 | 05    | 14           | Pacific Steam Navigation Co.   | 246.0   | 35.0  | 15.6        | Cristobal.     | Valparaiso.     | General.         | 194   | 1,552                 | 1,023 |
| S. C. No. 285.    | 14               | 6     | 20             | 14    | 12                 | 22    | 14           | United States Navy             | 461.0   | 60.0  | 28.6        | Cristobal.     | Balboa.         | Oil and general. | 9,633 | 8,672                 | 6,499 |
| Rompo.            | 15               | 5     | 58             | 15    | 7                  | 45    | 15           | United States Navy             | 405.0   | 52.0  | 17.0        | Liverpool.     | Honolulu.       | Ballast.         | 5,650 | 4,071                 |       |
| Corpe Orteg.      | 15               | 3     | 50             | 15    | 7                  | 15    | 15           | Life Shipping Co.              | 385.0   | 52.0  | 16.9        | San Francisco. | San Francisco.  | General.         | 450   | 3,370                 | 3,789 |
| Chancellor.       | 15               | 9     | 00             | 16    | 7                  | 27    | 16           | Harrison Line.                 | 374.0   | 51.0  | 13.0        | Cardiff.       | San Francisco.  | Ballast.         | 5,236 | 3,678                 |       |
| Reading.          | 15               | 13    | 36             | 16    | 6                  | 15    | 16           | John Cory & Son.               | 375.0   | 51.0  | 13.0        | New Orleans.   | Seattle.        | General.         | 3,000 | 2,915                 | 2,001 |
| Loke Hector.      | 16               | 11    | 16             | 11    | 30                 | 16    | 19           | Swayne & Hoyt.                 | 253.0   | 43.0  | 16.6        | London.        | Auckland.       | General.         | 3,000 | 7,449                 | 5,414 |
| Kanara.           | 16               | 11    | 56             | 16    | 12                 | 15    | 16           | Shaw, Saville & Albion Co.     | 425.0   | 54.0  | 26.0        | London.        | Wellington.     | General.         | 4,915 | 12,821                | 9,507 |
| Corinth.          | 16               | 16    | 30             | 17    | 7                  | 15    | 17           | White Star Line.               | 501.0   | 63.0  | 27.8        | New York.      | Callao.         | General.         | 770   | 2,444                 | 1,593 |
| South American.   | 16               | 21    | 04             | 17    | 8                  | 00    | 17           | South American Steamship Line. | 251.0   | 43.0  | 15.4        | New York.      | San Francisco.  | Ballast.         | 6,051 | 4,399                 |       |
| Shelley.          | 17               | 9     | 03             | 17    | 9                  | 20    | 17           | Shakespeare Shipping Co.       | 399.0   | 53.0  | 15.0        | Rochester.     | San Francisco.  | General.         | 8,500 | 9,458                 | 6,898 |
| America.          | 16               | 15    | 24             | 17    | 6                  | 27    | 17           | Hain Steamship Co.             | 480.0   | 62.0  | 26.2        | New Orleans.   | Sydney.         | Sulphur.         | 5,300 | 5,654                 | 4,167 |
| Tredendum.        | 17               | 1     | 20             | 17    | 10                 | 58    | 17           | Australand Steamship Co.       | 384.0   | 50.0  | 26.6        | Texas City.    | Fremantle.      | General.         | 2,285 | 3,666                 | 2,577 |
| Australind.       | 17               | 19    | 17             | 17    | 11                 | 24    | 17           | United States Navy             | 462.0   | 60.0  | 24.6        | Hampton R'ds.  | Seattle.        | General.         | 725   | 7,285                 | 5,256 |
| Nitro.            | 13               | 14    | 52             | 18    | 6                  | 24    | 18           | Chilean Steamship Line.        | 350.0   | 40.0  | 23.4        | Cristobal.     | Valparaiso.     | General.         | 8,085 | 7,285                 | 5,256 |
| Palena.           | 18               | 9     | 51             | 18    | 6                  | 24    | 18           | United States Marine Co.       | 390.0   | 59.0  | 28.0        | Baltimore.     | Yokohama.       | General.         | 20    | 741                   | 350   |
| Steel Voyager.    | 13               | 14    | 51             | 18    | 10                 | 05    | 18           | Colombian Maritime Co.         | 190.0   | 25.0  | 11.3        | Pt. Colombia.  | Buenaventura.   | General.         | 6,750 | 5,924                 | 4,292 |
| Balboa.           | 13               | 14    | 51             | 18    | 10                 | 05    | 18           | Kawasaki Kisen K. Kaisha       | 385.0   | 51.0  | 26.0        | Port Arthur.   | Yokohama.       | Case oil.        | 4,691 | 3,382                 |       |
| England Maru.     | 13               | 12    | 55             | 18    | 13                 | 07    | 18           | Shakapara Shipping Co.         | 380.0   | 48.0  | 16.0        | Newport News.  | Portland, Ore.  | Ballast.         | 5,623 | 7,812                 | 4,886 |
| Keas.             | 18               | 18    | 18             | 19    | 6                  | 27    | 19           | Barber Line (S. B.)            | 402.0   | 53.0  | 25.0        | New York.      | Chemulpo.       | Oil.             | 4,000 | 6,580                 | 4,162 |
| Alloway.          | 19               | 6     | 09             | 19    | 7                  | 30    | 19           | Commonwealth and Dom. Line     | 471.0   | 59.0  | 22.6        | Barry.         | Auckland.       | Coal.            | 7,058 | 9,045                 | 6,815 |
| Port Stephens.    | 19               | 7     | 25             | 19    | 7                  | 30    | 19           | United States Navy             | 385.0   | 52.0  | 23.7        | Hampton R'ds.  | San Diego.      | General.         | 5,528 | 4,159                 |       |
| Rapahannock.      | 18               | 5     | 35             | 19    | 9                  | 40    | 19           | Williams Steamship Line.       | 357.0   | 52.0  | 21.6        | Philadelphia.  | Los Angeles.    | General.         | 6,899 | 5,139                 |       |
| Willaro.          | 19               | 11    | 16             | 19    | 11                 | 35    | 19           | New Zealand Shipping Co.       | 380.0   | 52.0  | 14.6        | London.        | San Francisco.  | General.         | 9     | 6                     |       |
| Ruapehu.          | 19               | 11    | 18             | 19    | 11                 | 35    | 19           | Jas. Jenkins Service Co.       | 380.0   | 52.0  | 14.6        | Newport.       | Balboa.         | Ballast.         | 5,511 | 6,899                 | 5,139 |
| Anglesia.         | 19               | 12    | 15             | 19    | 12                 | 40    | 19           | United States Navy             | 285.0   | 9.0   | 5.0         | Cristobal.     | Yokohama.       | General.         | 6,000 | 9,262                 | 6,853 |
| Scotia.           | 19               | 7     | 30             | 19    | 16                 | 08    | 19           | Alfred F. Loomis               | 425.0   | 53.0  | 22.0        | Mobile.        | Yokohama.       | General.         | 134   | 5,917                 | 4,145 |
| Hippocampus.      | 14               | 7     | 30             | 19    | 12                 | 00    | 20           | Kokusa Kisen Kaisha            | 28.0    | 9.0   | 5.0         | Mobile.        | Yokohama.       | General.         | 1,884 | 5,816                 | 4,113 |
| Texas Maru.       | 19               | 7     | 30             | 19    | 6                  | 34    | 20           | Lukenbach Steamship Line.      | 449.0   | 60.0  | 25.0        | New York.      | San Francisco.  | General.         | 919   | 6,887                 | 4,575 |
| Harry Luckenbach. | 19               | 20    | 19             | 20    | 7                  | 35    | 20           | United States Navy             | 231.0   | 30.0  | 16.0        | Charleston.    | Magdalena.      | General.         | 4,680 | 3,441                 |       |
| S. C. No. 2.      | 15               | 16    | 40             | 20    | 8                  | 30    | 20           | Cla Gie, Transatlantique       | 403.0   | 50.0  | 16.0        | Bordeaux.      | Valparaiso.     | General.         | 1,884 | 5,816                 | 4,113 |
| Saint Andre.      | 19               | 11    | 03             | 20    | 9                  | 58    | 20           | Pacific Steam Navigation Co.   | 400.0   | 52.0  | 15.0        | Liverpool.     | West Coast Pts. | General.         | 919   | 6,887                 | 4,575 |
| Ballena.          | 19               | 17    | 40             | 20    | 11                 | 24    | 20           | Trinder-Auderson               | 401.0   | 52.0  | 23.0        | New Castle.    | Astoria.        | General.         | 4,680 | 3,441                 |       |
| Victoria.         | 20               | 8     | 12             | 20    | 11                 | 55    | 20           |                                | 365.0   | 47.0  | 11.6        |                |                 |                  |       |                       |       |
| Montrose.         | 20               | 12    | 55             | 20    | 13                 | 20    | 20           |                                |         |       |             |                |                 |                  |       |                       |       |

a Yawl.

b Tug, towing barge No. 466.

c Launch.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Date.          | Vessel.        | Line.                           | From—               | Date.          | Vessel.                     | Line.                             | For—                   |                |
|----------------|----------------|---------------------------------|---------------------|----------------|-----------------------------|-----------------------------------|------------------------|----------------|
| Aug. 13.....   | Abangarez..... | United Fruit Co.                | New Orleans.        | Aug. 14.....   | Abangarez.....              | United Fruit Co.                  | Bocas del Toro.        |                |
| Aug. 14.....   | Advance.....   | Panama Railroad Steamship Line. | New York and Haiti. | Aug. 15.....   | Crijnsen.....               | Royal Netherlands W. I. Mail..... | Port Limon.            |                |
| Aug. 15.....   | Crijnsen.....  | Royal Netherlands W. I. Mail.   | Amsterdam.          | Aug. 16.....   | Killerg <sup>10</sup> ..... | Lindsay, Swan and Hunter.....     | High seas.             |                |
| Aug. 15.....   | Achilles.....  | Panama Railroad Steamship Line. | Norfolk.            | Aug. 17.....   | Abangarez.....              | United Fruit Co.                  | New Orleans.           |                |
| Aug. 15.....   | Owl.....       | United States Navy.             | Hampton Roads.      | Aug. 17.....   | San Gil.....                | United Fruit Co.                  | Boston via Port Limon. |                |
| Aug. 15.....   | Parismina..... | United Fruit Co.                | New Orleans.        | Aug. 17.....   | Tolosa.....                 | United Fruit Co.                  | New York.              |                |
| 13 23 06 14    | 7 35 14        | 13 56 14                        | 15 10 14            | British.....   | 14 15 10 14                 | British.....                      | 14 15 10 14            | British.....   |
| 14 6 00 14     | 8 20 14        | 15 28 14                        | 15 20 09 14         | British.....   | 15 20 09 14                 | British.....                      | 15 20 09 14            | British.....   |
| 14 10 14       | 12 33 14       | 15 35 14                        | 15 11 18 14         | British.....   | 15 11 18 14                 | British.....                      | 15 11 18 14            | British.....   |
| 15 6 10 15     | 7 18 15        | 15 30 15                        | 15 16 05 15         | British.....   | 15 16 05 15                 | British.....                      | 15 16 05 15            | British.....   |
| 15 12 15       | 12 53 15       | 15 30 15                        | 15 20 50 15         | American.....  | 15 20 50 15                 | American.....                     | 15 20 50 15            | American.....  |
| 15 19 00 16    | 7 21 16        | 16 09 16                        | 16 07 27 16         | American.....  | 16 07 27 16                 | American.....                     | 16 07 27 16            | American.....  |
| 15 18 45 16    | 8 34 16        | 16 24 16                        | 16 16 38 16         | Chilean.....   | 16 16 38 16                 | Chilean.....                      | 16 16 38 16            | Chilean.....   |
| 16 5 00 16     | 9 10 16        | 16 31 16                        | 16 17 07 16         | Chilean.....   | 16 17 07 16                 | Chilean.....                      | 16 17 07 16            | Chilean.....   |
| 16 1 25 17     | 7 21 17        | 17 15 45 17                     | 17 15 45 17         | Japanese.....  | 17 15 45 17                 | Japanese.....                     | 17 15 45 17            | Japanese.....  |
| 16 21 00 17    | 8 14 17        | 17 35 17                        | 17 17 20 17         | American.....  | 17 17 20 17                 | American.....                     | 17 17 20 17            | American.....  |
| 16 5 13 17     | 9 58 17        | 17 43 17                        | 17 23 15 17         | American.....  | 17 23 15 17                 | American.....                     | 17 23 15 17            | American.....  |
| 16 23 15 17    | 9 58 17        | 17 43 17                        | 17 23 15 17         | American.....  | 17 23 15 17                 | American.....                     | 17 23 15 17            | American.....  |
| 17 7 10 17     | 11 37 17       | 17 52 17                        | 18 06 17            | British.....   | 18 06 17                    | British.....                      | 18 06 17               | British.....   |
| 17 14 18       | 7 13 18        | 18 15 18                        | 18 21 55 18         | American.....  | 18 21 55 18                 | American.....                     | 18 21 55 18            | American.....  |
| 17 17 00 18    | 8 30 18        | 18 25 18                        | 18 16 35 18         | American.....  | 18 16 35 18                 | American.....                     | 18 16 35 18            | American.....  |
| 17 5 53 18     | 9 13 18        | 18 30 18                        | 18 3 45 18          | American.....  | 18 3 45 18                  | American.....                     | 18 3 45 18             | American.....  |
| 18 1 12 18     | 9 42 18        | 18 15 18                        | 18 21 12 18         | British.....   | 18 21 12 18                 | British.....                      | 18 21 12 18            | British.....   |
| 18 0 01 18     | 10 21 18       | 18 35 18                        | 18 18 00 18         | American.....  | 18 18 00 18                 | American.....                     | 18 18 00 18            | American.....  |
| 18 12 45 18    | 13 10 18       | 18 18 00 18                     | 18 18 00 18         | American.....  | 18 18 00 18                 | American.....                     | 18 18 00 18            | American.....  |
| 18 15 35 19    | 7 20 19        | 18 15 58 19                     | 18 18 12 19         | American.....  | 18 18 12 19                 | American.....                     | 18 18 12 19            | American.....  |
| 18 21 30 19    | 8 27 19        | 19 17 20 19                     | 19 20 12 19         | American.....  | 19 20 12 19                 | American.....                     | 19 20 12 19            | American.....  |
| 19 12 10 19    | 14 20 19       | 19 21 13 19                     | 19 21 13 19         | Peruvian.....  | 19 21 13 19                 | Peruvian.....                     | 19 21 13 19            | Peruvian.....  |
| 19 15 00 20    | 7 15 20        | 19 15 20                        | 19 15 20            | British.....   | 19 15 20                    | British.....                      | 19 15 20               | British.....   |
| 20 0 05 20     | 7 24 20        | 19 15 45 20                     | 19 23 30 20         | British.....   | 19 23 30 20                 | British.....                      | 19 23 30 20            | British.....   |
| 18 21 15 20    | 8 21 20        | 19 16 32 20                     | 19 17 00 20         | American.....  | 19 17 00 20                 | American.....                     | 19 17 00 20            | American.....  |
| 19 16 30 20    | 9 06 20        | 19 17 15 20                     | 19 19 00 20         | British.....   | 19 19 00 20                 | British.....                      | 19 19 00 20            | British.....   |
| 19 18 00 20    | 10 16 20       | 19 18 00 20                     | 19 20 10 20         | British.....   | 19 20 10 20                 | British.....                      | 19 20 10 20            | British.....   |
| 20 7 40 20     | 10 58 20       | 19 19 52 20                     | 19 20 10 20         | American.....  | 19 20 10 20                 | American.....                     | 19 20 10 20            | American.....  |
| 20 7 30 20     | 11 38 20       | 20 17 17 20                     | 20 17 25 20         | American.....  | 20 17 25 20                 | American.....                     | 20 17 25 20            | American.....  |
| 20 40 20       | 12 36 20       | 20 17 17 20                     | 20 17 25 20         | American.....  | 20 17 25 20                 | American.....                     | 20 17 25 20            | American.....  |
| 20 10 40 20    | 12 44 20       | 20 23 20 20                     | 20 23 20 20         | Norwegian..... | 20 23 20 20                 | Norwegian.....                    | 20 23 20 20            | Norwegian..... |
| 20 13 23 20    | 14 18 20       | 20 10 21 20                     | 20 16 19 20         | Japanese.....  | 20 16 19 20                 | Japanese.....                     | 20 16 19 20            | Japanese.....  |
| 20 0 05 20     | 7 24 20        | 19 15 45 20                     | 19 23 30 20         | British.....   | 19 23 30 20                 | British.....                      | 19 23 30 20            | British.....   |
| 18 21 15 20    | 8 21 20        | 19 16 32 20                     | 19 17 00 20         | American.....  | 19 17 00 20                 | American.....                     | 19 17 00 20            | American.....  |
| 19 16 30 20    | 9 06 20        | 19 17 15 20                     | 19 19 00 20         | British.....   | 19 19 00 20                 | British.....                      | 19 19 00 20            | British.....   |
| 19 18 00 20    | 10 16 20       | 19 18 00 20                     | 19 20 10 20         | British.....   | 19 20 10 20                 | British.....                      | 19 20 10 20            | British.....   |
| 20 7 40 20     | 10 58 20       | 19 19 52 20                     | 19 20 10 20         | American.....  | 19 20 10 20                 | American.....                     | 19 20 10 20            | American.....  |
| 20 7 30 20     | 11 38 20       | 20 17 17 20                     | 20 17 25 20         | American.....  | 20 17 25 20                 | American.....                     | 20 17 25 20            | American.....  |
| 20 40 20       | 12 36 20       | 20 17 17 20                     | 20 17 25 20         | American.....  | 20 17 25 20                 | American.....                     | 20 17 25 20            | American.....  |
| 20 10 40 20    | 12 44 20       | 20 23 20 20                     | 20 23 20 20         | Norwegian..... | 20 23 20 20                 | Norwegian.....                    | 20 23 20 20            | Norwegian..... |
| 20 13 23 20    | 14 18 20       | 20 10 21 20                     | 20 16 19 20         | Japanese.....  | 20 16 19 20                 | Japanese.....                     | 20 16 19 20            | Japanese.....  |
| Tokutoku Maru  |                |                                 |                     |                |                             |                                   |                        |                |
| Essequibo      |                |                                 |                     |                |                             |                                   |                        |                |
| Scotia Maiden  |                |                                 |                     |                |                             |                                   |                        |                |
| Wangarata      |                |                                 |                     |                |                             |                                   |                        |                |
| Mundela        |                |                                 |                     |                |                             |                                   |                        |                |
| West Lewark    |                |                                 |                     |                |                             |                                   |                        |                |
| Leake Fithian  |                |                                 |                     |                |                             |                                   |                        |                |
| Renato         |                |                                 |                     |                |                             |                                   |                        |                |
| Toba Maru      |                |                                 |                     |                |                             |                                   |                        |                |
| Ryufuku Maru   |                |                                 |                     |                |                             |                                   |                        |                |
| Mexican        |                |                                 |                     |                |                             |                                   |                        |                |
| Stanley Dollar |                |                                 |                     |                |                             |                                   |                        |                |
| Ouba           |                |                                 |                     |                |                             |                                   |                        |                |
| West Honaker   |                |                                 |                     |                |                             |                                   |                        |                |
| Hancock County |                |                                 |                     |                |                             |                                   |                        |                |
| Steel Worker   |                |                                 |                     |                |                             |                                   |                        |                |
| Manavi         |                |                                 |                     |                |                             |                                   |                        |                |
| Bengale        |                |                                 |                     |                |                             |                                   |                        |                |
| S. C. No. 285  |                |                                 |                     |                |                             |                                   |                        |                |
| West Isleta    |                |                                 |                     |                |                             |                                   |                        |                |
| Irisway        |                |                                 |                     |                |                             |                                   |                        |                |
| Ucayali        |                |                                 |                     |                |                             |                                   |                        |                |
| Acapulco       |                |                                 |                     |                |                             |                                   |                        |                |
| North Ameri-   |                |                                 |                     |                |                             |                                   |                        |                |
| can            |                |                                 |                     |                |                             |                                   |                        |                |
| Kennecott      |                |                                 |                     |                |                             |                                   |                        |                |
| Speaker        |                |                                 |                     |                |                             |                                   |                        |                |
| Port Napier    |                |                                 |                     |                |                             |                                   |                        |                |
| Janeau         |                |                                 |                     |                |                             |                                   |                        |                |
| Juonon         |                |                                 |                     |                |                             |                                   |                        |                |
| Santa Barbara  |                |                                 |                     |                |                             |                                   |                        |                |
| Sarpis         |                |                                 |                     |                |                             |                                   |                        |                |
| Tokutoku Maru  |                |                                 |                     |                |                             |                                   |                        |                |
| Essequibo      |                |                                 |                     |                |                             |                                   |                        |                |
| Scotia Maiden  |                |                                 |                     |                |                             |                                   |                        |                |
| Wangarata      |                |                                 |                     |                |                             |                                   |                        |                |
| Mundela        |                |                                 |                     |                |                             |                                   |                        |                |
| West Lewark    |                |                                 |                     |                |                             |                                   |                        |                |
| Leake Fithian  |                |                                 |                     |                |                             |                                   |                        |                |
| Renato         |                |                                 |                     |                |                             |                                   |                        |                |
| Toba Maru      |                |                                 |                     |                |                             |                                   |                        |                |
| Ryufuku Maru   |                |                                 |                     |                |                             |                                   |                        |                |
| Mexican        |                |                                 |                     |                |                             |                                   |                        |                |
| Stanley Dollar |                |                                 |                     |                |                             |                                   |                        |                |
| Ouba           |                |                                 |                     |                |                             |                                   |                        |                |
| West Honaker   |                |                                 |                     |                |                             |                                   |                        |                |
| Hancock County |                |                                 |                     |                |                             |                                   |                        |                |
| Steel Worker   |                |                                 |                     |                |                             |                                   |                        |                |
| Manavi         |                |                                 |                     |                |                             |                                   |                        |                |
| Bengale        |                |                                 |                     |                |                             |                                   |                        |                |
| S. C. No. 285  |                |                                 |                     |                |                             |                                   |                        |                |
| West Isleta    |                |                                 |                     |                |                             |                                   |                        |                |
| Irisway        |                |                                 |                     |                |                             |                                   |                        |                |
| Ucayali        |                |                                 |                     |                |                             |                                   |                        |                |
| Acapulco       |                |                                 |                     |                |                             |                                   |                        |                |
| North Ameri-   |                |                                 |                     |                |                             |                                   |                        |                |
| can            |                |                                 |                     |                |                             |                                   |                        |                |
| Kennecott      |                |                                 |                     |                |                             |                                   |                        |                |
| Speaker        |                |                                 |                     |                |                             |                                   |                        |                |
| Port Napier    |                |                                 |                     |                |                             |                                   |                        |                |
| Janeau         |                |                                 |                     |                |                             |                                   |                        |                |
| Juonon         |                |                                 |                     |                |                             |                                   |                        |                |
| Santa Barbara  |                |                                 |                     |                |                             |                                   |                        |                |
| Sarpis         |                |                                 |                     |                |                             |                                   |                        |                |
| Tokutoku Maru  |                |                                 |                     |                |                             |                                   |                        |                |
| Essequibo      |                |                                 |                     |                |                             |                                   |                        |                |
| Scotia Maiden  |                |                                 |                     |                |                             |                                   |                        |                |
| Wangarata      |                |                                 |                     |                |                             |                                   |                        |                |
| Mundela        |                |                                 |                     |                |                             |                                   |                        |                |
| West Lewark    |                |                                 |                     |                |                             |                                   |                        |                |
| Leake Fithian  |                |                                 |                     |                |                             |                                   |                        |                |
| Renato         |                |                                 |                     |                |                             |                                   |                        |                |
| Toba Maru      |                |                                 |                     |                |                             |                                   |                        |                |
| Ryufuku Maru   |                |                                 |                     |                |                             |                                   |                        |                |
| Mexican        |                |                                 |                     |                |                             |                                   |                        |                |
| Stanley Dollar |                |                                 |                     |                |                             |                                   |                        |                |
| Ouba           |                |                                 |                     |                |                             |                                   |                        |                |
| West Honaker   |                |                                 |                     |                |                             |                                   |                        |                |
| Hancock County |                |                                 |                     |                |                             |                                   |                        |                |
| Steel Worker   |                |                                 |                     |                |                             |                                   |                        |                |
| Manavi         |                |                                 |                     |                |                             |                                   |                        |                |
| Bengale        |                |                                 |                     |                |                             |                                   |                        |                |
| S. C. No. 285  |                |                                 |                     |                |                             |                                   |                        |                |
| West Isleta    |                |                                 |                     |                |                             |                                   |                        |                |
| Irisway        |                |                                 |                     |                |                             |                                   |                        |                |
| Ucayali        |                |                                 |                     |                |                             |                                   |                        |                |
| Acapulco       |                |                                 |                     |                |                             |                                   |                        |                |
| North Ameri-   |                |                                 |                     |                |                             |                                   |                        |                |
| can            |                |                                 |                     |                |                             |                                   |                        |                |
| Kennecott      |                |                                 |                     |                |                             |                                   |                        |                |
| Speaker        |                |                                 |                     |                |                             |                                   |                        |                |
| Port Napier    |                |                                 |                     |                |                             |                                   |                        |                |
| Janeau         |                |                                 |                     |                |                             |                                   |                        |                |
| Juonon         |                |                                 |                     |                |                             |                                   |                        |                |
| Santa Barbara  |                |                                 |                     |                |                             |                                   |                        |                |
| Sarpis         |                |                                 |                     |                |                             |                                   |                        |                |
| Tokutoku Maru  |                |                                 |                     |                |                             |                                   |                        |                |
| Essequibo      |                |                                 |                     |                |                             |                                   |                        |                |
| Scotia Maiden  |                |                                 |                     |                |                             |                                   |                        |                |
| Wangarata      |                |                                 |                     |                |                             |                                   |                        |                |
| Mundela        |                |                                 |                     |                |                             |                                   |                        |                |
| West Lewark    |                |                                 |                     |                |                             |                                   |                        |                |
| Leake Fithian  |                |                                 |                     |                |                             |                                   |                        |                |
| Renato         |                |                                 |                     |                |                             |                                   |                        |                |
| Toba Maru      |                |                                 |                     |                |                             |                                   |                        |                |
| Ryufuku Maru   |                |                                 |                     |                |                             |                                   |                        |                |
| Mexican        |                |                                 |                     |                |                             |                                   |                        |                |
| Stanley Dollar |                |                                 |                     |                |                             |                                   |                        |                |
| Ouba           |                |                                 |                     |                |                             |                                   |                        |                |
| West Honaker   |                |                                 |                     |                |                             |                                   |                        |                |
| Hancock County |                |                                 |                     |                |                             |                                   |                        |                |
| Steel Worker   |                |                                 |                     |                |                             |                                   |                        |                |
| Manavi         |                |                                 |                     |                |                             |                                   |                        |                |
| Bengale        |                |                                 |                     |                |                             |                                   |                        |                |
| S. C. No. 285  |                |                                 |                     |                |                             |                                   |                        |                |
| West Isleta    |                |                                 |                     |                |                             |                                   |                        |                |
| Irisway        |                |                                 |                     |                |                             |                                   |                        |                |
| Ucayali        |                |                                 |                     |                |                             |                                   |                        |                |
| Acapulco       |                |                                 |                     |                |                             |                                   |                        |                |
| North Ameri-   |                |                                 |                     |                |                             |                                   |                        |                |
| can            |                |                                 |                     |                |                             |                                   |                        |                |
| Kennecott      |                |                                 |                     |                |                             |                                   |                        |                |
| Speaker        |                |                                 |                     |                |                             |                                   |                        |                |
| Port Napier    |                |                                 |                     |                |                             |                                   |                        |                |
| Janeau         |                |                                 |                     |                |                             |                                   |                        |                |
| Juonon         |                |                                 |                     |                |                             |                                   |                        |                |
| Santa Barbara  |                |                                 |                     |                |                             |                                   |                        |                |
| Sarpis         |                |                                 |                     |                |                             |                                   |                        |                |
| Tokutoku Maru  |                |                                 |                     |                |                             |                                   |                        |                |
| Essequibo      |                |                                 |                     |                |                             |                                   |                        |                |
| Scotia Maiden  |                |                                 |                     |                |                             |                                   |                        |                |
| Wangarata      |                |                                 |                     |                |                             |                                   |                        |                |
| Mundela        |                |                                 |                     |                |                             |                                   |                        |                |
| West Lewark    |                |                                 |                     |                |                             |                                   |                        |                |
| Leake Fithian  |                |                                 |                     |                |                             |                                   |                        |                |
| Renato         |                |                                 |                     |                |                             |                                   |                        |                |
| Toba Maru      |                |                                 |                     |                |                             |                                   |                        |                |
| Ryufuku Maru   |                |                                 |                     |                |                             |                                   |                        |                |
| Mexican        |                |                                 |                     |                |                             |                                   |                        |                |
| Stanley Dollar |                |                                 |                     |                |                             |                                   |                        |                |
| Ouba           |                |                                 |                     |                |                             |                                   |                        |                |
| West Honaker   |                |                                 |                     |                |                             |                                   |                        |                |
| Hancock County |                |                                 |                     |                |                             |                                   |                        |                |
| Steel Worker   |                |                                 |                     |                |                             |                                   |                        |                |
| Manavi         |                |                                 |                     |                |                             |                                   |                        |                |
| Bengale        |                |                                 |                     |                |                             |                                   |                        |                |
| S. C. No. 285  |                |                                 |                     |                |                             |                                   |                        |                |
| West Isleta    |                |                                 |                     |                |                             |                                   |                        |                |
| Irisway        |                |                                 |                     |                |                             |                                   |                        |                |
| Ucayali        |                |                                 |                     |                |                             |                                   |                        |                |
| Acapulco</     |                |                                 |                     |                |                             |                                   |                        |                |



Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of Same, Month of July, 1921.  
COMMODITY STATISTICS.  
ATLANTIC TO PACIFIC.

(Figures represent tons of 2,240 pounds.)

| Commodity.               | From—                        |                       |                       |                  |               |                | To—                          |                              |                              |           |              |                       |                        |               |                   |                       |
|--------------------------|------------------------------|-----------------------|-----------------------|------------------|---------------|----------------|------------------------------|------------------------------|------------------------------|-----------|--------------|-----------------------|------------------------|---------------|-------------------|-----------------------|
|                          | East coast of South America. | East coast of Canada. | East coast of Mexico. | Cristobal, C. Z. | Other Europe. | British Isles. | East coast of United States. | West coast of South America. | West coast of United States. | Far East. | Australasia. | West coast of Canada. | West coast of America. | Balboa, C. Z. | Hawaiian Islands. | West coast of Mexico. |
| Aerated waters.          | 36                           |                       |                       |                  |               |                | 36                           |                              | 36                           |           |              |                       |                        |               |                   |                       |
| Agricultural implements. | 772                          |                       |                       | 1                |               |                | 734                          | 211                          | 200                          |           | 361          |                       |                        |               |                   |                       |
| Alcohol.                 | 4                            |                       |                       |                  |               | 37             | 4                            |                              |                              | 4         |              |                       |                        |               |                   |                       |
| Ammonia.                 | 921                          |                       |                       |                  |               |                | 921                          |                              | 594                          | 327       |              |                       |                        |               |                   |                       |
| Ammunition.              | 250                          |                       |                       |                  |               |                | 250                          |                              | 250                          |           |              |                       |                        |               |                   |                       |
| Asbestos.                | 10                           |                       |                       |                  |               | 10             |                              |                              |                              |           | 10           |                       |                        |               |                   |                       |
| Asphalt.                 | 38                           |                       |                       |                  |               | 20             | 16                           |                              |                              |           | 38           |                       |                        |               |                   |                       |
| Automobiles.             | 76                           | 4                     |                       |                  | 9             | 33             | 30                           | 13                           | 18                           | 5         | 40           |                       |                        |               |                   |                       |
| Balsam.                  | 1                            |                       |                       |                  |               |                | 1                            |                              |                              | 1         |              |                       |                        |               |                   |                       |
| Borax.                   | 5                            |                       |                       |                  |               | 5              |                              |                              |                              |           | 5            |                       |                        |               |                   |                       |
| Canned goods:            |                              |                       |                       |                  |               |                |                              |                              |                              |           |              |                       |                        |               |                   |                       |
| Fish.                    | 493                          | 1                     |                       | 1                | 20            |                | 471                          | 21                           | 471                          |           | 1            |                       |                        |               |                   |                       |
| Fruit.                   | 55                           |                       |                       |                  | 5             |                |                              | 5                            | 50                           |           |              |                       |                        |               |                   |                       |
| Milk.                    | 112                          |                       |                       |                  |               |                | 112                          |                              |                              | 112       |              |                       |                        |               |                   |                       |
| Vegetables.              | 101                          |                       |                       | 18               |               | 50             | 33                           | 68                           | 30                           |           |              |                       |                        |               | 3                 |                       |
| Other.                   | 100                          |                       |                       |                  |               |                | 100                          |                              | 100                          |           |              |                       |                        |               |                   |                       |
| Carbon black.            | 30                           |                       |                       |                  |               |                | 30                           |                              |                              | 30        |              |                       |                        |               |                   |                       |
| Cement.                  | 1,871                        |                       |                       |                  | 182           | 501            | 1,188                        | 880                          | 90                           |           | 1            |                       |                        | 950           |                   |                       |
| Chemicals.               | 709                          | 1                     |                       | 37               | 187           | 47             | 527                          | 51                           | 500                          | 203       | 27           |                       | 17                     |               | 1                 |                       |
| Coal.                    | 8,258                        |                       |                       |                  |               | 120            | 8,138                        | 1,664                        | 2,350                        |           | 4,089        | 145                   |                        |               |                   |                       |
| Cocoa.                   | 124                          |                       |                       |                  |               | 124            |                              |                              | 124                          |           |              |                       |                        |               |                   |                       |
| Coffee.                  | 737                          |                       |                       | 718              |               | 19             |                              | 18                           | 700                          |           | 2            | 17                    |                        |               |                   |                       |
| Cold storage:            |                              |                       |                       |                  |               |                |                              |                              |                              |           |              |                       |                        |               |                   |                       |
| Lard.                    | 318                          |                       |                       | 80               |               |                | 238                          | 82                           | 236                          |           |              |                       |                        |               |                   |                       |
| Other.                   | 106                          |                       |                       |                  |               |                | 106                          |                              | 100                          |           | 6            |                       |                        |               |                   |                       |
| Cotton.                  | 26,083                       |                       |                       | 48               |               |                | 26,035                       |                              |                              | 26,035    |              |                       | 48                     |               |                   |                       |
| Cotton seed.             | 2                            |                       |                       | 2                |               |                |                              |                              |                              |           |              | 2                     |                        |               |                   |                       |
| Crossote.                | 14                           |                       |                       |                  |               | 14             |                              |                              | 14                           |           |              |                       |                        |               |                   |                       |
| Flour.                   | 119                          |                       |                       | 99               |               | 20             |                              | 99                           |                              |           | 20           |                       |                        |               |                   |                       |
| Fruit, dried.            | 278                          |                       |                       |                  | 5             | 215            | 58                           | 5                            | 152                          |           | 20           | 101                   |                        |               |                   |                       |
| Glass and glassware.     | 1,158                        |                       |                       |                  | 1,102         | 28             | 28                           |                              | 1,102                        |           | 39           |                       |                        |               |                   |                       |
| Glucose.                 | 291                          |                       |                       |                  |               |                | 291                          |                              | 291                          |           | 2            |                       |                        |               |                   |                       |
| Hais.                    | 86                           |                       |                       |                  | 77            | 2              | 77                           | 77                           | 7                            |           |              |                       |                        |               |                   |                       |
| Infusorial earth.        | 31                           |                       |                       |                  |               | 31             |                              |                              | 31                           |           |              |                       |                        |               |                   |                       |
| Lime.                    | 241                          |                       |                       |                  |               |                | 241                          |                              |                              | 241       |              |                       |                        |               |                   |                       |
| Linoleum.                | 9                            |                       |                       | 90               | 225           | 1,056          | 9                            | 451                          | 9                            | 20        | 426          | 399                   | 64                     |               |                   |                       |
| Liquors.                 | 1,419                        |                       |                       |                  |               |                | 48                           |                              | 59                           |           |              |                       |                        |               |                   |                       |
| Lumber.                  | 242                          |                       |                       |                  |               |                | 242                          |                              | 224                          |           |              |                       |                        |               | 18                |                       |





## PACIFIC TO ATLANTIC.

(Figures represent tons of 2,240 pounds.)

| Commodity.     | Totals. | From—            |                                |                       |              |           |                              | To—                          |                              |                |               |                 |                       |              |
|----------------|---------|------------------|--------------------------------|-----------------------|--------------|-----------|------------------------------|------------------------------|------------------------------|----------------|---------------|-----------------|-----------------------|--------------|
|                |         | Hawaiian Islands | West coast of Central America. | West coast of Canada. | Australasia. | Far East. | West coast of United States. | West coast of South America. | East coast of United States. | British Isles. | Other Europe. | Chetobal, C. Z. | East Coast of Canada. | West Indies. |
| Alcohol        | 107     |                  | 7                              |                       |              |           | 100                          |                              | 100                          |                | 3             | 7               |                       |              |
| Automobiles    | 7       |                  |                                |                       |              |           | 7                            |                              | 2                            |                |               |                 |                       |              |
| Balsam         | 7       |                  | 7                              |                       |              |           |                              |                              |                              |                |               |                 |                       |              |
| Bark           |         |                  |                                |                       |              |           |                              |                              |                              |                |               |                 |                       |              |
| Casaca.        | 5       |                  |                                |                       |              |           |                              |                              |                              | 5              |               |                 |                       |              |
| Cinchona       | 2       |                  |                                |                       |              |           |                              |                              |                              |                |               |                 |                       |              |
| Oreolina       | 5       |                  |                                | 5                     |              |           |                              |                              |                              |                |               |                 |                       |              |
| Peruvian       | 10      |                  |                                |                       |              |           |                              |                              |                              |                |               |                 |                       |              |
| Quilay         | 22      |                  |                                |                       |              |           |                              |                              |                              |                |               |                 |                       |              |
| Barley         | 27,780  |                  |                                |                       |              |           | 18,413                       | 9,367                        | 1,000                        | 19,495         | 7,285         | 9               |                       |              |
| Beans and peas | 5,762   |                  |                                |                       | 1,297        | 276       | 3,618                        | 571                          | 1,386                        | 1,297          | 2,988         | 1               | 90                    |              |
| Beeswax        | 19      |                  |                                |                       |              |           |                              | 19                           | 3                            | 16             |               |                 |                       |              |
| Borax          | 202     |                  |                                |                       |              |           |                              | 202                          |                              | 200            | 2             |                 |                       |              |
| Bristles       | 49      |                  |                                |                       |              |           | 49                           |                              | 49                           |                |               |                 |                       |              |
| Cacao          | 4,072   |                  |                                |                       |              |           | 1,500                        | 2,572                        | 2,553                        |                | 301           | 1,204           |                       | 14           |
| Canned goods:  |         |                  |                                |                       |              |           |                              |                              |                              |                |               |                 |                       |              |
| Fish           | 10,596  |                  |                                |                       |              |           | 10,105                       |                              | 7,376                        | 1,852          | 1,368         |                 |                       |              |
| Fruit          | 10,482  | 900              |                                | 491                   |              | 50        | 8,623                        |                              | 2,786                        | 6,058          | 1,633         | 5               |                       |              |
| Meat           | 202     |                  |                                | 909                   |              |           | 29                           |                              | 199                          | 199            | 3             |                 |                       |              |
| Milk           | 191     |                  |                                | 7                     | 166          |           | 166                          |                              | 166                          | 25             |               |                 |                       |              |
| Vegetables     | 213     |                  |                                |                       | 25           |           | 213                          |                              | 183                          |                | 27            |                 |                       | 3            |
| Others         | 2,300   |                  |                                |                       |              |           | 2,300                        |                              | 2,300                        |                |               |                 |                       |              |
| Chemicals      | 1       |                  |                                |                       |              |           |                              | 1                            |                              |                |               | 1               |                       |              |
| Cocoa leaves   | 5       |                  |                                |                       |              |           |                              |                              |                              |                |               | 5               |                       |              |
| Coffee         | 6,675   |                  | 3,225                          |                       |              |           | 40                           | 3,410                        | 1,720                        | 30             | 1,395         | 3,530           |                       |              |
| Cold storage:  |         |                  |                                |                       |              |           |                              |                              |                              |                |               |                 |                       |              |
| Beef           | 394     |                  |                                |                       | 387          |           | 7                            |                              |                              | 387            | 7             |                 |                       |              |
| Butter         | 1,036   |                  |                                |                       | 1,036        |           |                              |                              |                              | 1,036          |               |                 |                       |              |
| Cheese         | 5,433   |                  |                                |                       | 5,433        |           |                              |                              |                              | 5,433          |               |                 |                       |              |
| Glaxo          | 89      |                  |                                |                       | 89           |           |                              |                              |                              | 89             |               |                 |                       |              |
| Lard           | 497     |                  |                                |                       |              |           | 497                          |                              |                              |                | 497           |                 |                       |              |
| Mutton         | 21,329  |                  |                                |                       | 21,329       |           |                              |                              |                              | 21,329         |               |                 |                       |              |
| Pork           | 52      |                  |                                |                       | 31           |           | 21                           |                              |                              | 31             | 21            |                 |                       |              |
| Rabbits        | 800     |                  |                                |                       | 800          |           |                              |                              |                              | 800            |               |                 |                       |              |
| Tallow         | 3,077   |                  |                                |                       | 3,077        |           |                              |                              |                              | 3,077          |               |                 |                       |              |
| Others.        | 1,118   |                  |                                |                       | 992          |           | 30                           | 96                           | 96                           | 992            | 30            |                 |                       |              |
| Copra.         | 2,450   |                  |                                |                       | 109          | 2,350     |                              |                              | 2,350                        | 100            |               |                 |                       |              |

|                      |        |     |       |        |        |        |       |        |       |
|----------------------|--------|-----|-------|--------|--------|--------|-------|--------|-------|
| Cotton, raw          | 3,281  | 61  | 46    | 1,425  | 1,749  | 786    | 979   | 16     | 1,300 |
| Cotton seed          | 5,880  |     |       | 4,020  | 1,300  | 1,364  | 4,016 |        |       |
| Cotton seed oil cake | 717    |     |       |        | 717    | 564    |       |        | 153   |
| Flax                 | 213    |     | 213   |        |        | 213    |       |        |       |
| Flour                | 28,940 |     | 1,352 | 26,188 |        | 40     | 9,966 | 18,934 |       |
| Fruit:               |        |     |       |        |        |        |       |        |       |
| Dried                | 3,048  |     | 200   | 2,848  |        | 322    | 2,725 | 1      |       |
| Fresh                | 226    |     |       | 226    |        | 226    |       |        |       |
| Guano                | 2,350  |     | 2,350 |        |        | 2,350  |       |        |       |
| Gun, Kauri           | 219    |     |       |        |        | 219    |       |        |       |
| Hardwoods            | 920    | 61  | 763   | 95     | 1      | 763    | 96    | 61     |       |
| Hais                 | 13     |     |       |        | 13     | 3      |       | 2      | 8     |
| Hemp                 | 1,705  |     | 407   | 30     |        | 1,298  | 407   |        |       |
| Honey                | 233    |     | 10    | 223    |        | 200    | 10    |        |       |
| Hops                 | 4,000  |     |       |        | 4,000  |        |       | 4,000  |       |
| Horns and hoofs      | 46     |     |       |        | 46     |        |       | 46     |       |
| Indigo               | 5      | 5   |       |        |        |        |       |        | 5     |
| Infusorial earth     | 277    |     |       | 277    |        | 277    |       |        |       |
| Iodine               | 5      |     | 5     |        |        | 5      |       |        |       |
| Ivory nuts           | 2,368  |     |       |        | 2,368  | 942    |       | 238    | 1,188 |
| Jute                 | 5      |     |       |        | 5      |        | 5     |        |       |
| Licorice root        | 2,688  |     | 2,688 |        |        | 2,688  |       |        |       |
| Liquors              | 15     |     |       |        | 15     |        |       |        | 15    |
| Livestock            | 3,380  |     |       | 3,380  |        | 2,000  |       |        | 1,380 |
| Lumber               | 31,699 | 140 | 3     | 28,310 |        | 26,799 | 633   | 861    | 140   |
| Manufactured goods:  |        |     |       |        |        |        |       |        |       |
| Railroad material    | 37     |     |       | 37     |        | 37     |       |        |       |
| Textiles             | 42     |     | 40    | 2      |        | 40     |       | 2      | 2     |
| Other                | 4      |     |       | 4      |        |        |       |        |       |
| Metals:              |        |     |       |        |        |        |       |        |       |
| Copper               | 9,529  |     |       | 3,408  | 3,828  | 5,532  |       | 1,482  | 2,245 |
| Gold and silver      | 20     |     |       |        | 20     |        |       | 20     |       |
| Iron                 | 75     |     |       | 75     |        | 75     |       |        |       |
| Lead                 | 206    |     |       |        | 6      |        | 200   |        | 6     |
| Tin                  | 778    |     | 200   |        | 678    | 100    |       | 678    |       |
| Other                | 693    |     | 100   |        | 893    |        | 693   |        |       |
| Nitrates             | 26,051 |     |       |        | 26,051 | 23,037 | 1,044 | 2,000  |       |
| Nuts                 | 221    |     |       | 221    |        | 221    |       | 221    |       |
| Oats                 | 3,185  |     | 1,016 |        |        | 2,285  | 900   |        |       |
| Oil:                 |        |     |       |        |        |        |       |        |       |
| Coconut              | 7,073  |     | 7,073 |        |        | 7,073  | 4     |        |       |
| Eucalyptus           | 4      |     | 4     |        |        |        |       |        |       |
| Refined              | 1,194  |     |       | 1,194  |        |        |       | 1,194  |       |
| Vegetable            | 1      |     | 1     |        |        | 1      |       |        |       |
| Ores:                |        |     |       |        |        |        |       |        |       |
| Antimony             | 453    |     | 453   |        |        | 453    |       |        |       |
| Copper               | 5,490  |     |       |        | 5,490  | 5,490  |       |        |       |
| Gold and silver      | 106    |     |       |        | 106    | 76     | 30    |        |       |
| Tungsten             | 125    |     | 125   |        |        | 125    |       |        |       |
| Other                | 213    |     |       |        | 193    | 193    | 20    |        |       |
| Paints               | 46     |     |       | 46     |        |        |       |        |       |

## COMMODITY STATISTICS.—PACIFIC TO ATLANTIC—Continued.

(Figures represent tons of 2,240 pounds.)

| Commodity       | From—            |                               |                      |              |           |                              |                              | To—                          |                |               |                  |                       |              |                              |
|-----------------|------------------|-------------------------------|----------------------|--------------|-----------|------------------------------|------------------------------|------------------------------|----------------|---------------|------------------|-----------------------|--------------|------------------------------|
|                 | Hawaiian Islands | West coast of Central America | West coast of Canada | Australasia. | Far East. | West coast of United States. | West coast of South America. | East coast of United States. | British Isles. | Other Europe. | Cristobal, C. Z. | East Coast of Canada. | West Indies. | East coast of South America. |
| Total.          | 4                |                               | 3                    | 7,500        | 1,538     | 1                            |                              |                              | 3              | 4,249         | 117              |                       | 1,863        |                              |
| Paper           |                  |                               |                      |              |           |                              |                              |                              | 7,500          |               |                  |                       |              |                              |
| Phosphates      |                  |                               |                      |              |           |                              | 5                            |                              | 1,538          |               |                  |                       |              |                              |
| Rice            |                  |                               |                      |              |           |                              |                              |                              |                |               |                  |                       |              |                              |
| Rubber, raw     |                  |                               |                      |              |           |                              | 4                            |                              |                |               |                  |                       |              |                              |
| Rubber.         |                  |                               |                      |              |           |                              |                              |                              |                |               |                  |                       |              |                              |
| Rubber.         |                  |                               |                      |              |           |                              | 2                            |                              | 392            |               | 2                |                       |              |                              |
| Saltpeter       |                  |                               |                      |              |           |                              |                              |                              |                | 409           |                  |                       |              |                              |
| Seeds:          |                  |                               |                      |              |           |                              |                              |                              |                |               |                  |                       |              |                              |
| Clover          |                  |                               |                      | 11           | 130       |                              | 171                          | 130                          | 182            |               |                  |                       |              |                              |
| Grass           |                  |                               |                      | 100          |           |                              |                              |                              | 100            |               |                  |                       |              |                              |
| Silk            |                  |                               |                      |              | 109       |                              |                              | 109                          |                |               |                  |                       |              |                              |
| Skins and hides |                  |                               |                      | 1,986        | 1,709     | 200                          | 623                          | 2,050                        | 2,099          | 188           | 321              |                       |              |                              |
| Sugar           |                  |                               |                      |              | 13,152    |                              | 2,539                        | 45,638                       | 1,972          | 483           | 301              |                       |              |                              |
| Tar             |                  |                               |                      |              |           |                              | 70                           |                              |                | 70            |                  |                       |              |                              |
| Tea             |                  |                               |                      |              | 259       |                              |                              | 230                          |                | 29            |                  |                       |              |                              |
| Tobacco         |                  |                               |                      |              | 12        |                              |                              |                              |                | 12            |                  |                       |              |                              |
| Vegetables      |                  |                               |                      |              |           |                              | 20                           |                              |                |               | 20               |                       |              |                              |
| Walnuts         |                  |                               |                      |              |           |                              | 390                          | 240                          |                |               | 150              |                       |              |                              |
| Wheat           |                  |                               |                      | 7,385        |           |                              | 87,337                       | 4,025                        | 60,520         | 38,747        |                  |                       |              |                              |
| Wool            |                  |                               |                      | 8,121        | 1,074     |                              | 4,445                        | 381                          | 5,528          | 8,265         | 30               |                       |              |                              |
| General         |                  |                               | 3                    | 170          | 3,951     | 6,670                        | 3,073                        | 8,545                        | 827            | 5,017         | 104              |                       | 204          | 148                          |
| Grand totals    | 450,512          | 33,305                        | 4,922                | 63,747       | 39,880    | 222,647                      | 77,502                       | 164,736                      | 165,229        | 102,416       | 11,167           | 3,246                 | 3,540        | 208                          |

# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending August 20, 1921.

| Name of vessel.  | Line or charterer.                | Arrived.       | Departed.      | Cargo—     |        |
|------------------|-----------------------------------|----------------|----------------|------------|--------|
|                  |                                   |                |                | Discharged | Laded. |
|                  |                                   |                |                | Tons.      | Tons.  |
| Cauca.....       | Pacific Steam Navigation Co.....  | August 14..... | August 14..... |            | 195½   |
| Balboa.....      | Panama Railroad Steamship Line..  | August 14..... | August 18..... |            | 20     |
| Abangarez.....   | United Fruit Co.....              | August 14..... | August 14..... |            | 9      |
| Palena.....      | United Fruit Co.....              | August 14..... | August 18..... |            | 725    |
| Chancellor.....  | Harrison Steamship Co.....        | August 15..... | August 16..... | 183        |        |
| Advance.....     | Panama Railroad Steamship Line..  | August 15..... | August 19..... | 1,767      | 193    |
| Parismina.....   | United Fruit Co.....              | August 15..... | August 17..... | 1,188      | 30     |
| Crijnsen.....    | Royal Netherlands W. I. Mail..... | August 15..... | August 15..... | 25         |        |
| Tolosa.....      | United Fruit Co.....              | August 16..... | August 17..... | 232        | 66     |
| San Gil.....     | United Fruit Co.....              | August 16..... | August 17..... | 12         | 26     |
| Abangarez.....   | United Fruit Co.....              | August 17..... | August 17..... | 24         | 9      |
| Toba Maru.....   | Japanese Steamship Co.....        | August 17..... | August 17..... | 328        |        |
| Crijnsen.....    | Royal Netherlands W. I. Mail..... | August 17..... | August 18..... | 20         | 183½   |
| Manavi.....      | Pacific Steam Navigation Co.....  | August 17..... | August 17..... | 499        |        |
| Saint Andre..... | French Line.....                  | August 19..... | August 19..... | 39         |        |
| Ucayali.....     | Panama Railroad Steamship Line..  | August 19..... | August 19..... | 17         |        |
| Bayano.....      | United Fruit Co.....              | August 20..... | August 20..... | 58         |        |
| Colon.....       | Panama Railroad Steamship Line..  | August 20..... | August 20..... | 1,861      |        |

# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending August 20, 1921.

| Name of vessel.  | Line or charterer.                | Arrived.       | Departed.      | Cargo—     |        |
|------------------|-----------------------------------|----------------|----------------|------------|--------|
|                  |                                   |                |                | Discharged | Laded. |
|                  |                                   |                |                | Tons.      | Tons.  |
| Hahira.....      | United States Shipping Board..... | August 11..... | August 12..... | 2,857      |        |
| Salvador.....    | Pacific Steam Navigation Co.....  | August 14..... | August 14..... |            | 46     |
| Pacific.....     | Johnson Line.....                 | August 15..... | August 16..... | 750        | 2      |
| Depere.....      | United States Shipping Board..... | August 16..... | August 16..... | 151        | 50     |
| Rakuyu Maru..... | Toyo Kisen Kaisha.....            | August 17..... | August 17..... | 366        |        |
| Manavi.....      | Pacific Steam Navigation Co.....  | August 18..... | August 18..... | 17         |        |
| Acajutla.....    | Pacific Steam Navigation Co.....  | August 19..... | August 20..... | 1          |        |

## Supplement No. 1 to Tariff No. 5.—Dry Docks.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
BALBOA HEIGHTS, C. Z., August 8, 1921.

### ITEM 13.—DRY DOCKS.

(Effective August 15, 1921.)

| 1. Rates:                                                                                                                          | Balboa. Cristobal. |        |
|------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------|
| Men-of-war. Per ton, actual displacement tonnage.                                                                                  |                    |        |
| For docking and undocking.....                                                                                                     | \$0.15             | \$0.15 |
| For each lay day.....                                                                                                              | .12                | .10    |
| Army and Navy transports, colliers, hospital ships, and supply ships, per gross ton, Panama Canal measurement:                     |                    |        |
| For docking and undocking.....                                                                                                     | .15                | .15    |
| For each lay day.....                                                                                                              | .12                | .10    |
| Merchant steamers. Per gross ton, Panama Canal measurement:                                                                        |                    |        |
| For docking and undocking.....                                                                                                     | .15                | .15    |
| For each lay day.....                                                                                                              | .12                | .10    |
| Merchant sailing vessels. Per net ton, Panama Canal measurement:                                                                   |                    |        |
| For docking and undocking.....                                                                                                     | .15                | .15    |
| For each lay day.....                                                                                                              | .12                | .10    |
| Minimum charges:                                                                                                                   |                    |        |
| Docked alone—                                                                                                                      |                    |        |
| When the dock is pumped for the exclusive benefit of one vessel and is occupied by a single vessel—                                |                    |        |
| For docking and undocking.....                                                                                                     | (*)                | 75.00  |
| For lay days.....                                                                                                                  | 150.00             | 45.00  |
| (*) At Balboa, the minimum charge for docking days is the actual cost of docking and undocking calculated in the following manner: |                    |        |

## 1. Rates.—Continued.

Minimum charges.—Continued.

Docked alone—

(The actual cost of labor of docking and undocking, plus the prevailing division surcharge, the cost of unusual material used and \$150 for the use of the dry dock) plus 10 per cent, The Panama Canal surcharge.

NOTE—The \$150 per day for the use of the Balboa dry dock covers the cost of power and labor for operating the dry dock pumps and the depreciation and maintenance of the pumping plant and all other dry dock structures and equipment except the 50-ton dry dock crane, for which an additional charge is made at rates fixed under Item 9 of this tariff or supplements thereto.

Docked with other vessels:

At Balboa—

*Docking days*—When a vessel is docked with one or more other vessels, the minimum charge for docking days is the actual cost for docking and undocking as shown above, except that the \$150 per day for use of dry dock will be equally divided on the basis of the number of small vessels docked, regardless of their tonnage or valuation.

*Lay days*—The regular rate per ton for lay days will apply except in those instances in which the ship's tonnage multiplied by the regular rate fails to cover the ship's pro rata share of the \$150 flat rate for the use of the dry dock.

At Cristobal—

When a vessel, whose tonnage is below the amount which at regular rates would equal less than the minimum rate above, is docked with one or more vessels:

|                                |         |
|--------------------------------|---------|
| For docking and undocking..... | \$60.00 |
| For lay days.....              | 30.00   |

12. The rates for docking and undocking cover the use of floats, staging horses, stage planking, staging lines, trestles, scrapers, brushes, etc., for use in connection with cleaning and painting the vessel or making repairs. The cost of work performed in rigging staging, etc., except as described in the following paragraph will be charged for at the regular rates.
13. No charge will be made for the services of dry dock cranes in connection with preparing the dock, the handling and arranging of ordinary blocks, shoring, gangways, or brows or similar work in connection with the actual docking or undocking, or for handling trestles and staging in connection with cleaning and painting underwater bodies of vessels.
14. Services of the dry dock crane not covered in the foregoing paragraph will be charged for at the regular rate per hour or fraction thereof provided for in Item 9 of this tariff or supplements thereto.
15. Shores, blocks, staging, or other dock equipment damaged or destroyed by the ship or her crew, except as a result of fair wear and tear, will be charged at regular rates.
16. Any unusual expense involved in docking a vessel will be charged against the vessel.
17. Vessels lying at wharves solely for the purposes of waiting to enter dock will not be charged wharfage.

JAY J. MORROW,

Governor, The Panama Canal.

President, Panama Railroad Company.

**Government Vessels Which Pay No Tolls.**

Noncommercial Traffic Through The Panama Canal During Fiscal Year 1921.

The following is a statement of government vessels, other than Canal equipment, passing through the Panama Canal free of tolls,



during the fiscal year 1921. In the tonnage figures here shown, Panama Canal net tonnage is given on colliers, tankers, transports, cargo, and supply ships, and displacement tonnage on battleships, cruisers, destroyers, minelayers, etc., where the Panama Canal net tonnage is not ascertainable. There is no duplication of tonnage figures.

None of the vessels included in this statement paid tolls, but a computation has been made showing the amount of tolls these vessels would have paid, if they had been assessed at commercial rates:

| ATLANTIC TO PACIFIC. |               |                   |                |              | PACIFIC TO ATLANTIC.   |               |                   |                |              |                        |
|----------------------|---------------|-------------------|----------------|--------------|------------------------|---------------|-------------------|----------------|--------------|------------------------|
|                      | No. of ships. | Tonnage.          |                | Tolls. †     | Tons of cargo carried. | No. of ships. | Tonnage.          |                | Tolls. †     | Tons of cargo carried. |
|                      |               | Panama Canal net. | Dis- placement |              |                        |               | Panama Canal net. | Dis- placement |              |                        |
| July.....            | 18            | 14,991            | 7,350          | \$18,771.85  | 23,253                 | 8             | 13,301            | 2,910          | \$13,084.25  | 4,500                  |
| August.....          | 17            | 19,934            | 8,493          | 24,767.75    | 25,298                 | 13            | 11,594            | 98,420         | 58,738.50    | 300                    |
| September.....       | 10            | 31,579            | 2,890          | 35,468.34    | 32,379                 | 2             | 8,910             | .....          | 10,386.45    | 411                    |
| October.....         | 22            | 27,312            | 31,166         | 45,763.00    | 31,230                 | 4             | 7,690             | 4,150          | 11,198.05    | 2,992                  |
| November.....        | 13            | 31,456            | 3,238          | 33,151.38    | 37,475                 | 3             | 8,933             | .....          | 8,400.16     | 94                     |
| December.....        | 19            | 26,108            | 24,717         | 41,913.40    | 40,236                 | 2             | 6,749             | 1,000          | 5,359.28     | .....                  |
| January.....         | 60            | 74,548            | 263,975        | 214,607.00   | 87,889                 | 14            | 10,195            | 37,857         | 26,271.48    | .....                  |
| February.....        | 32            | 29,387            | 36,791         | 53,210.95    | 52,711                 | 62            | 48,076            | 250,887        | 166,070.94   | 1,800                  |
| March.....           | 23            | 27,333            | 8,385          | 32,522.30    | 39,160                 | 14            | 11,161            | 13,992         | 15,943.15    | 239                    |
| April.....           | 15            | 25,174            | 880            | 27,690.11    | 35,214                 | 12            | 6,986             | 4,396          | 7,229.60     | .....                  |
| May.....             | 22            | .....             | 32,288         | 16,144.00    | 4,000                  | 8             | 403               | 5,560          | 3,070.16     | .....                  |
| June.....            | 23            | 21,559            | 44,731         | 44,876.41    | 34,188                 | 10            | 4,124             | 14,587         | 10,262.78    | 400                    |
| Totals....           | 274           | 329,381           | 464,904        | \$588,886.49 | 443,033                | 152           | 138,122           | 433,759        | \$336,014.80 | 10,736                 |

## RECAPITULATION.

|                                                  | Atlantic to Pacific. | Pacific to Atlantic. | Total.       |
|--------------------------------------------------|----------------------|----------------------|--------------|
| Number of vessels.....                           | 274                  | 152                  | 426          |
| Panama Canal net tonnage.....                    | 329,381              | 138,122              | 467,503      |
| Displacement tonnage.....                        | 464,904              | 433,759              | 898,663      |
| Tolls <sup>1</sup> .....                         | \$588,886.49         | \$336,014.80         | \$924,901.29 |
| Tons of cargo carried by government vessels..... | 443,033              | 10,736               | 453,769      |

<sup>1</sup> Tolls were not charged; figures indicate amounts collectible if tolls had been levied.

### Rates for Cable Messages to Cartagena.

The All-America Cables, Inc., announces a rate of 23 cents per word on commercial messages from stations on the Isthmus to Cartagena, Colombia, effective August 17. The rate for official messages of the United States Government is 13 cents per word. The rate had previously been 30 cents per word for both commercial and Government messages.

### Reopening of the Hotel Aspinwall, Taboga.

The Hotel Aspinwall, on Taboga Island, which was closed on July 1 on account of not being self-sustaining, has been leased for 3 years, beginning September 1, and will be reopened on or about that date. The lessee is Mr. James A. Malloy, at present manager of the Strangers Club, in Colon.

The Panama Canal has sought to retain the hotel in operation as a recreational resort for its employees. This has been provided in paragraphs 4 and 5 of the conditions of lease, which stipulate a 20 per cent reduction in rates for Canal, Panama Railroad, and Army and Navy employees, and that the hotel be operated in accordance with the sanitary regulations in effect in the Canal Zone and "in a manner to attract the patronage of employees of the Canal and the military organizations previously referred to."

## Official Circulars.

### Closing of Corozal Road.

THE PANAMA CANAL,  
EXECUTIVE OFFICE.

BALBOA HEIGHTS, C. Z., August 15, 1921.

To all concerned—Effective September 1, 1921, that part of the road leading from Corozal to the Bull Ring in the city of Panama, which lies in the Canal Zone and which is known as Corozal Road, will be closed to all except the official traffic of the Canal and the Army. Heads of Divisions and Departments should advise the Municipal Engineer how many keys to the gates to be placed on said road, will be needed to take care of such of their official transportation as is required to use this road.

JAY J. MORROW,  
Governor.

### Trains Omitted on September 4 and 5.

PANAMA RAILROAD COMPANY,  
OFFICE OF THE MASTER OF TRANSPORTATION,  
BALBOA HEIGHTS, C. Z., August 12, 1921.  
CIRCULAR No. 1867.

To all concerned—On account of Monday, September 5, 1921, being a legal holiday, No. 102 of Sunday, September 4, and local freights, Monday, September 5, will not run.

W. J. BISSELL,  
Acting Master of Transportation.

Approved:

S. W. HEALD,  
Superintendent.

### Hogs For Sale.

The following hog stock is offered for sale, f.o.b. the Margarita hog farm:

6 grade boars, three-quarters Duroc, 1 year old.

14 grade boars, bred from three-quarters Duroc sow and full-blooded Hampshire boars, from 3 to 6 months old.

3 boars, seven-eighths Duroc, 4 to 5 months old.

For further information inquire at the Cattle Industry office in Cristobal.

### Eggs for Setting.

For a limited period only purchases of eggs for setting may be made at the Summit poultry farm at the following prices:

White Leghorn or Rhode Island Red, per setting of 15 eggs, \$3; two settings, or 30 eggs, \$5.50. All sales f. o. b. Summit.

### Empty Barrels and Packing Cases For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10" dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

### Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

### Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pan canal, Panama;" in the United States, "Pan canal, Washington."

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 11.

PORT OF CRISTOBAL.

\*ARRIVALS.

\*DEPARTURES.

| Date.        | Vessel.                | Line.                           | From—               | Date.        | Vessel.                | Line.                           | For—                        |
|--------------|------------------------|---------------------------------|---------------------|--------------|------------------------|---------------------------------|-----------------------------|
| Aug. 15..... | Killerig <sup>10</sup> | Lindsay, Swan and Hunter.       | Escribanos.         | Aug. 17..... | Parismina.....         | United Fruit Co.....            | New Orleans via Port Limon. |
| Aug. 16..... | San Gil.....           | United Fruit Co.....            | Boston.             | Aug. 18..... | Crijnsen.....          | Royal Netherlands W. I. Mail.   | Amsterdam.                  |
| Aug. 17..... | Tolosa.....            | United Fruit Co.....            | New York.           | Aug. 18..... | Lima.....              | Curacao Shipping Co.....        | San Lorenzo.                |
| Aug. 17..... | Abangarez.....         | United Fruit Co.....            | Boas del Toro.      | Aug. 19..... | Achilles.....          | Panama Railroad Steamship Line. | Norfolk.                    |
| Aug. 18..... | Crinssen.....          | Royal Netherlands W. I. Mail.   | Port Limon.         | Aug. 19..... | Advance.....           | Panama Railroad Steamship Line. | New York via Haiti.         |
| Aug. 18..... | Killerig <sup>10</sup> | High seas.                      | High seas.          | Aug. 19..... | Killerig <sup>10</sup> | Lindsay, Swan and Hunter.       | Kingston.                   |
| Aug. 20..... | Bayano.....            | Port Limon.                     | Port Limon.         | Aug. 20..... | Bayano.....            | Elders & Fyfes, Ltd.            | Kingston.                   |
| Aug. 20..... | Colon.....             | Panama Railroad Steamship Line. | New York via Haiti. |              |                        |                                 |                             |

PORT OF BALBOA.

|              |                  |                                      |                |              |                  |                                      |             |
|--------------|------------------|--------------------------------------|----------------|--------------|------------------|--------------------------------------|-------------|
| Aug. 15..... | Pacific.....     | Johnson Line.....                    | Caliao.        | Aug. 17..... | Pacific.....     | Johnson Line.....                    | Vancouver.  |
| Aug. 16..... | Depere.....      | General Steamship Corp. (S. B.)..... | San Francisco. | Aug. 17..... | Depere.....      | General Steamship Corp. (S. B.)..... | Valparaiso. |
| Aug. 17..... | Rakuyo Maru..... | Toyokisen Kaisha.....                | Hongkong.      | Aug. 18..... | Rakuyo Maru..... | Toyokisen Kaisha.....                | Valparaiso. |

\* Other than ships passing through the Canal.

<sup>10</sup> Tug.

# THE PANAMA CANAL RECORD



OFFICIAL PUBLICATION OF THE PANAMA CANAL.  
PUBLISHED WEEKLY.

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Volume XV. Balboa Heights, C. Z., August 31, 1921. No. 3.

## CANAL WORK IN JULY.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of July, 1921:

BALBOA HEIGHTS, C. Z., August 20, 1921.

*The Honorable, the Secretary of War,*

*Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of July, 1921.

### CANAL TRAFFIC.

The total number of vessels and craft of all kinds through The Panama Canal, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                            | July,<br>1921. | June,<br>1921. | July,<br>1920. |
|--------------------------------------------|----------------|----------------|----------------|
| Commercial vessels.....                    | 206            | 193            | 225            |
| United States Government vessels.....      | 23             | 33             | 26             |
| Panama Government vessels.....             | 5              |                |                |
| Launches (under 10 tons).....              | 3              | 3              | 3              |
| Total vessels and craft through Canal..... | 237            | 229            | 254            |

### COMMERCIAL TRAFFIC.<sup>1</sup>

A comparison of the commercial traffic for July, 1921, with that of the preceding month, of the corresponding month of 1920, and of the average month's traffic for the past 12 months, shows the following:

|                                           | July, 1921.  | June, 1921.  | July, 1920.  | Average per<br>month for past<br>year. |
|-------------------------------------------|--------------|--------------|--------------|----------------------------------------|
| United States equivalent net tonnage..... | 652,439      | 613,894      | 705,643      | 774,222                                |
| Panama Canal net tonnage.....             | 810,613      | 761,477      | 856,798      | 947,474                                |
| Registered gross tonnage.....             | 1,022,802    | 960,857      | 1,109,079    | 1,203,011                              |
| Registered net tonnage.....               | 650,368      | 610,491      | 702,951      | 765,555                                |
| Tolls earned.....                         | \$804,503.11 | \$751,964.12 | \$842,312.05 | \$936,590.08                           |
| Tons of cargo carried.....                | 708,982      | 694,720      | 886,814      | 951,838                                |

Ocean-going commercial vessels passing through the Panama Canal averaged 6.67 ships per day. The average tonnage, tolls, and tons of cargo carried, per commercial vessel, as compared with last month's traffic, were as follows:

| Average per vessel.                       | July, 1921. | June, 1921. |
|-------------------------------------------|-------------|-------------|
| United States equivalent net tonnage..... | 3,167       | 3,197       |
| Panama Canal net tonnage.....             | 3,935       | 3,965       |
| Registered gross tonnage.....             | 4,965       | 5,004       |
| Registered net tonnage.....               | 3,157       | 3,180       |
| Tolls.....                                | \$3,995.35  | \$3,703.95  |
| Tons of cargo (all vessels).....          | 3,441       | 3,618       |
| Tons of cargo (laden vessels only).....   | 3,961       | 3,970       |

<sup>1</sup> NOTE.—Commercial traffic includes all vessels of 10 tons or more transiting the Panama Canal, with the exception of vessels owned by the United States Government, or chartered by the Government to carry Government supplies.

## TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

While all cargo-carrying vessels pay tolls on their net tonnage, as determined by established rules for measuring their available cargo-carrying space, yet the rate of such tolls per cargo ton furnishes interesting data, varying as it does not only in different ships, but in vessels of different nationalities.

The average rate of tolls paid on each ton (2,240 pounds) of cargo passing through the Panama Canal from the Atlantic to the Pacific was \$1.44 and from the Pacific to the Atlantic \$0.83 per ton, with a general average of \$1.03 per ton. The average rate paid per cargo ton, by nationality of vessels, is shown in the following statement:

|                                         | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | General<br>average. |
|-----------------------------------------|----------------------------|----------------------------|---------------------|
| British.....                            | \$1.53                     | \$0.96                     | \$1.10              |
| Chilean.....                            | 5.39                       | 6.48                       | 6.07                |
| Danish.....                             | 1.54                       | .57                        | .81                 |
| Dutch.....                              | 1.81                       | .66                        | .97                 |
| French.....                             | 22.18                      | 1.31                       | 2.32                |
| Italian.....                            | 5.62                       | 2.69                       | 3.28                |
| Japanese.....                           | 1.06                       | .75                        | .92                 |
| Mexican.....                            | 11.64                      | .....                      | 11.61               |
| Norwegian.....                          | 1.04                       | 1.48                       | 1.10                |
| Peruvian.....                           | 5.12                       | 1.08                       | 1.58                |
| Swedish.....                            | 1.28                       | .53                        | .62                 |
| United States.....                      | 1.40                       | .75                        | .96                 |
| Average rate all ships, July, 1921..... | 1.44                       | .83                        | 1.05                |
| Average rate all ships, June, 1921..... | 1.11                       | .93                        | 1.02                |
| Average rate all ships, May, 1921.....  | 1.06                       | .89                        | .97                 |

The difference in the rate of tolls paid per cargo ton, by vessels of various nationalities is due to some vessels being but lightly loaded while others are carrying capacity cargoes. This also accounts for the variation in the rates per cargo ton as between northbound and southbound cargo for ships of the same nationality.

The lowest rate of tolls paid per cargo ton by any vessel passing through the Panama Canal during the month of July, 1921, was paid by the steamship *Willfaro*, United States registry, bound from Portland, Oreg., to Charleston, S. C., and carrying 8,255 tons of canned goods, lumber, copper metal, and general cargo, on which tolls of \$4,160.00 were assessed, or a rate of 50.3 cents per cargo ton.

## COMMODITY STATISTICS.

A classification of all cargo passing through the Panama Canal, by commodities, giving the origin and destination of the same, has been previously compiled and was published in THE PANAMA CANAL RECORD under date of August 24, 1921. A brief summary of the principal items is shown herewith:

## CARGO PASSING FROM ATLANTIC TO PACIFIC.

| Commodity.             | Cargo<br>tons. | Per cent of total cargo. |            |
|------------------------|----------------|--------------------------|------------|
|                        |                | This month               | Last month |
| Manufactured goods:    |                |                          |            |
| Iron and steel.....    | 52,574         | 28.7                     | 20.7       |
| Machinery.....         | 6,043          |                          |            |
| Railroad material..... | 8,222          |                          |            |
| Textiles.....          | 1,993          |                          |            |
| Other.....             | 5,182          |                          |            |
| Oils:                  |                |                          |            |
| Crude.....             | 14,491         | 11.7                     | 35.7       |
| Refined.....           | 15,635         |                          |            |
| Cotton, raw.....       | 26,083         | 10.1                     | 3.3        |
| Metals.....            | 8,575          | 3.3                      | 0.9        |
| Coal and coke.....     | 8,258          | 3.2                      | 4.3        |
| Silver sand.....       | 4,150          | 1.6                      | .....      |
| Cement.....            | 1,871          | 0.7                      | 1.5        |
| Soda.....              | 1,667          | 0.6                      | .....      |
| Rosin.....             | 1,885          | 0.7                      | 0.3        |
| Paper.....             | 1,574          | 0.6                      | 0.2        |
| Liquors.....           | 1,419          | 0.5                      | 0.1        |
| Salt.....              | 1,766          | 0.7                      | 0.1        |
| Other and general..... | 97,052         | 37.6                     | 31.1       |
| Totals.....            | 258,440        | 100.0                    | .....      |



## CARGO PASSING FROM PACIFIC TO ATLANTIC.

| Commodity.                   | Cargo tons. | Per cent of total cargo. |            |
|------------------------------|-------------|--------------------------|------------|
|                              |             | This month               | Last month |
| Wheat.....                   | 99,267      | 22.1                     | 17.6       |
| Sugar.....                   | 43,394      | 10.8                     | 3.2        |
| Cold storage:                |             |                          |            |
| Mutton.....                  | 21,329      | 7.5                      | 10.3       |
| Cheese.....                  | 5,433       |                          |            |
| Other.....                   | 7,063       |                          |            |
| Lumber.....                  | 31,699      | 7.0                      | 9.4        |
| Flour.....                   | 28,940      | 6.4                      | 1.6        |
| Barley.....                  | 27,780      | 6.2                      | 5.7        |
| Nitrates.....                | 26,051      | 5.8                      | 17.6       |
| Canned goods:                |             |                          |            |
| Fish.....                    | 10,596      | 5.3                      | 3.2        |
| Fruit.....                   | 10,482      |                          |            |
| Other.....                   | 2,906       |                          |            |
| Wool.....                    | 14,030      | 3.1                      | 1.4        |
| Metals:                      |             |                          |            |
| Copper.....                  | 9,259       | 2.4                      | 3.3        |
| Other.....                   | 1,752       |                          |            |
| Oil:                         |             |                          |            |
| Coconut.....                 | 7,073       | 1.8                      | 2.2        |
| Other.....                   | 1,199       |                          |            |
| Phosphates.....              | 7,500       | 1.6                      |            |
| Rice.....                    | 7,767       | 1.7                      | 1.9        |
| Coffee.....                  | 6,675       | 1.5                      | 3.3        |
| Beans and peas.....          | 5,762       | 1.3                      | 1.1        |
| Ore, copper.....             | 5,400       | 1.2                      | 2.6        |
| Cotton seed.....             | 5,380       | 1.2                      | 0.5        |
| Skins and hides.....         | 4,658       | 1.0                      | 0.6        |
| Cacao.....                   | 4,072       | 0.9                      | 1.2        |
| Hops.....                    | 4,000       | 0.9                      |            |
| Other and general cargo..... | 45,935      | 10.3                     | 12.6       |
| Totals.....                  | 450,542     | 109.0                    |            |

## UNITED STATES COASTWISE TRAFFIC.

The number of vessels engaged in the United States coastwise traffic, passing through the Panama Canal during July, 1921, together with their tonnage, tolls, and tons of cargo carried, as compared with the preceding months of the calendar year was as follows:

|               | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|---------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|               | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.         |                      |                    |             |                |                      |                    |             |                |
| January.....  | 17                   | 88,086             | \$91,390.00 | 76,593         | 16                   | 62,765             | \$64,343.59 | 81,336         |
| February..... | 15                   | 80,940             | 79,169.20   | 67,302         | 17                   | 66,043             | 66,703.70   | 68,345         |
| March.....    | 16                   | 71,770             | 75,338.65   | 55,111         | 11                   | 61,804             | 64,470.64   | 52,289         |
| April.....    | 19                   | 92,033             | 94,185.00   | 94,434         | 14                   | 68,368             | 65,523.74   | 59,306         |
| May.....      | 19                   | 82,257             | 84,545.85   | 90,617         | 16                   | 75,593             | 72,813.55   | 93,242         |
| June.....     | 17                   | 96,199             | 94,577.11   | 68,809         | 11                   | 53,986             | 53,953.75   | 57,234         |
| July.....     | 19                   | 101,924            | 99,474.75   | 60,997         | 15                   | 70,477             | 72,103.75   | 92,659         |

## UNITED STATES SHIPPING BOARD VESSELS.

The number of vessels under control of the United States Shipping Board passing through the Panama Canal during the month of July, 1921, together with their Panama Canal net tonnage, tolls, and tons of cargo carried, as compared with preceding months of the calendar year, was as follows:

|               | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|---------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|               | No. of ships.        | P. C. Net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.         |                      |                    |             |                |                      |                    |             |                |
| January.....  | 14                   | 59,738             | \$64,769.85 | 70,058         | 23                   | 96,877             | \$93,268.29 | 98,075         |
| February..... | 8                    | 41,024             | 42,951.75   | 35,018         | 20                   | 96,441             | 94,032.01   | 103,285        |
| March.....    | 18                   | 94,823             | 96,782.80   | 83,978         | 8                    | 34,066             | 31,378.00   | 30,025         |
| April.....    | 13                   | 61,176             | 61,590.00   | 60,231         | 12                   | 56,049             | 53,162.18   | 52,908         |
| May.....      | 9                    | 39,614             | 40,180.00   | 48,489         | 21                   | 97,257             | 92,380.47   | 114,107        |
| June.....     | 17                   | 86,361             | 78,770.14   | 65,945         | 11                   | 49,370             | 48,080.00   | 59,696         |
| July.....     | 12                   | 67,851             | 65,796.25   | 29,918         | 12                   | 60,804             | 61,305.00   | 82,767         |



In addition to the above, 2 vessels under control of the United States Shipping Board, passed through the Panama Canal carrying Government supplies, combining a Panama Canal net tonnage of 8,968 and carrying 13,793 tons of cargo.

## TRAFFIC BY TRADE ROUTES.

Statements attached to this report show the origin and destination of all cargo passing through the Panama Canal as accurately as the same can be segregated from the cargo declarations submitted by the ship's masters (*see* pages 40 and 41). Below is given a summary of the traffic passing over the principal trade routes, showing the number of vessels, their Panama Canal net measurement, and the amount of cargo carried. The vessels shown as in ballast represent cargo-carrying vessels only; warships, tugs, yachts, etc., not being included as "ballast."

| Trade routes.                                                   | Total vessels. |                           |                  | Vessels in ballast. |                           |
|-----------------------------------------------------------------|----------------|---------------------------|------------------|---------------------|---------------------------|
|                                                                 | Number.        | Panama Canal net tonnage. | Cargo.           | Number.             | Panama Canal net tonnage. |
| <i>Atlantic to Pacific.</i>                                     |                |                           |                  |                     |                           |
| United States coastwise.....                                    | 19             | 101,924                   | 60,987           |                     |                           |
| East coast of United States to Far East.....                    | 13             | 65,969                    | 70,684           |                     |                           |
| Cristobal, C. Z., to west coast of South America.....           | 12             | 17,619                    | 1,569            | 3                   | 1,618                     |
| Europe to west coast of United States.....                      | 9              | 44,061                    | 19,232           | 3                   | 13,918                    |
| Europe to west coast of South America.....                      | 7              | 29,498                    | 11,925           |                     |                           |
| East coast of United States to west coast of South America..... | 6              | 18,539                    | 9,222            |                     |                           |
| East coast of United States to Australasia.....                 | 5              | 23,280                    | 24,068           |                     |                           |
| Europe to Australasia.....                                      | 4              | 29,486                    | 10,846           |                     |                           |
| Europe to west coast of Canada.....                             | 4              | 21,060                    | 3,357            |                     |                           |
| Cristobal, C. Z., to west coast of Central America.....         | 3              | 2,104                     | 1,665            |                     |                           |
| East coast of Mexico to west coast of United States.....        | 2              | 10,078                    | 8,000            | 1                   | 5,043                     |
| East coast of Mexico to west coast of South America.....        | 2              | 8,611                     | 14,069           |                     |                           |
| Cristobal, C. Z., to west coast of United States.....           | 2              | 3,765                     | 2,887            |                     |                           |
| East coast of United States to Balboa, C. Z.....                | 1              | 4,490                     | 950              |                     |                           |
| Mexican coastwise.....                                          | 4              | 348                       | 10               | 3                   | 261                       |
| Miscellaneous trade routes.....                                 | 10             | 24,306                    | 18,958           | 4                   | 6,670                     |
| Warships.....                                                   | 2              | ( <sup>1</sup> )          | ( <sup>1</sup> ) |                     |                           |
| Total, Atlantic to Pacific, July, 1921.....                     | 105            | 403,051                   | 258,449          | 14                  | 27,510                    |
| Total, Atlantic to Pacific, June, 1921.....                     | 103            | 415,362                   | 359,584          | 7                   | 18,178                    |
| Total, Atlantic to Pacific, July, 1920.....                     | 107            | 361,859                   | 398,317          | 10                  | 21,729                    |
| <i>Pacific to Atlantic.</i>                                     |                |                           |                  |                     |                           |
| West coast of United States to Europe.....                      | 17             | 84,491                    | 135,326          |                     |                           |
| United States coastwise.....                                    | 14             | 70,477                    | 91,991           |                     |                           |
| West coast of South America to Cristobal, C. Z.....             | 14             | 23,607                    | 8,369            |                     |                           |
| Australasia to Europe.....                                      | 11             | 70,124                    | 63,747           |                     |                           |
| West coast of South America to east coast of United States..... | 10             | 32,902                    | 33,125           | 1                   | 5,095                     |
| West coast of South America to Europe.....                      | 8              | 33,678                    | 31,719           |                     |                           |
| Far East to east coast of United States.....                    | 6              | 30,048                    | 39,629           |                     |                           |
| West coast of Canada to Europe.....                             | 3              | 15,970                    | 24,255           |                     |                           |
| West coast of United States to Cristobal, C. Z.....             | 2              | 3,765                     | 1,557            |                     |                           |
| West coast of Central America to Cristobal, C. Z.....           | 2              | 1,398                     | 1,779            |                     |                           |
| West coast of United States to east coast of Mexico.....        | 1              | 8,469                     |                  | 1                   | 8,409                     |
| West coast of South America to east coast of Mexico.....        | 1              | 5,165                     |                  | 1                   | 5,105                     |
| Miscellaneous.....                                              | 9              | 27,498                    | 18,845           | 3                   | 11,774                    |
| Warships.....                                                   | 3              | ( <sup>2</sup> )          | ( <sup>2</sup> ) |                     |                           |
| Total, Pacific to Atlantic, July, 1921.....                     | 101            | 497,562                   | 450,542          | 6                   | 30,383                    |
| Total, Pacific to Atlantic, June, 1921.....                     | 89             | 346,175                   | 335,136          | 8                   | 29,922                    |
| Total, Pacific to Atlantic, July, 1920.....                     | 118            | 494,948                   | 483,497          | 20                  | 97,397                    |

<sup>1</sup> French cruiser of 12,160 tons displacement, and Italian cruiser of 3,889 tons displacement.

<sup>2</sup> Three British warships of 5,744 tons displacement.

## LATIN-AMERICAN TRAFFIC.

The number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality, were as follows:

## ATLANTIC TO PACIFIC.

| Nationality.       | No.<br>of<br>vessels | TONNAGE.                        |                      |                      |                    | Tolls.      | Cargo.  |
|--------------------|----------------------|---------------------------------|----------------------|----------------------|--------------------|-------------|---------|
|                    |                      | United<br>States<br>equivalent. | Panama<br>Canal net. | Registered<br>gross. | Registered<br>net. |             |         |
| British.....       | 21                   | 40,412                          | 51,671               | 79,746               | 42,178             | \$49,512.32 | 28,942  |
| United States..... | 10                   | 19,589                          | 23,637               | 31,193               | 19,615             | 23,994.65   | 21,419  |
| Mexican.....       | 4                    | 564                             | 348                  | 1,104                | 476                | 433.65      | 10      |
| Peruvian.....      | 2                    | 2,495                           | 5,356                | 8,049                | 4,187              | 3,118.75    | 609     |
| Norwegian.....     | 1                    | 4,418                           | 5,043                | 6,987                | 4,422              | 3,630.96    | 205     |
| French.....        | 1                    | 3,638                           | 4,170                | 5,796                | 3,689              | 4,547.50    | 700     |
| Italian.....       | 1                    | 3,149                           | 3,600                | 5,355                | 3,160              | 3,936.25    | 3,220   |
| Dutch.....         | 1                    | 2,518                           | 2,707                | 3,375                | 2,574              | 3,147.50    | 420     |
| Chilean.....       | 1                    | 1,811                           | 3,182                | 3,798                | 2,272              | 2,263.75    | 55,525  |
| July, 1921.....    | 42                   | 78,594                          | 99,714               | 136,403              | 82,573             | 94,585.33   | 129,973 |
| June, 1921.....    | 53                   | 117,044                         | 149,446              | 190,457              | 117,636            | 142,071.96  | 176,093 |
| July, 1920.....    | 62                   |                                 | 172,561              | 231,426              | 140,718            |             |         |

## PACIFIC TO ATLANTIC.

|                    |    |         |         |         |         |             |         |
|--------------------|----|---------|---------|---------|---------|-------------|---------|
| British.....       | 20 | 36,594  | 48,626  | 61,638  | 37,126  | \$42,253.63 | 36,270  |
| United States..... | 12 | 34,137  | 40,367  | 50,043  | 32,646  | 37,586.95   | 33,016  |
| Peruvian.....      | 3  | 3,699   | 7,742   | 12,452  | 6,277   | 4,623.75    | 4,284   |
| Norwegian.....     | 3  | 9,846   | 11,422  | 15,566  | 9,810   | 8,555.25    | 820     |
| Italian.....       | 2  | 6,049   | 8,060   | 10,530  | 6,496   | 7,561.25    | 2,804   |
| Chilean.....       | 2  | 3,608   | 6,250   | 7,612   | 4,560   | 4,510.00    | 695     |
| French.....        | 1  | 4,326   | 4,363   | 5,923   | 3,763   | 5,235.60    | 4,000   |
| Dutch.....         | 1  | 1,603   | 3,057   | 2,655   | 1,625   | 2,003.75    | 2,479   |
| July, 1921.....    | 44 | 99,862  | 129,887 | 166,419 | 102,303 | 112,330.18  | 84,363  |
| June, 1921.....    | 48 | 101,952 | 133,379 | 173,595 | 105,412 | 117,073.95  | 112,825 |
| July, 1920.....    | 52 |         | 166,017 | 222,986 | 137,644 |             | 96,004  |

CLASSIFICATION OF COMMERCIAL TRAFFIC.<sup>1</sup>

A statement of this month's commercial traffic, classified (1) according to the nationality of the various ships passing through the Panama Canal and (2) segregating laden and unladen vessels, is shown in the following tabulations:

| Nationality.                                                                                          | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.  |
|-------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|---------|
| Number and nationality of commercial vessels passing through the Canal:                               |                            |                            |         |
| British.....                                                                                          | 40                         | 42                         | 82      |
| Chilean.....                                                                                          | 1                          | 2                          | 3       |
| Danish.....                                                                                           | 4                          | 3                          | 7       |
| Dutch.....                                                                                            | 2                          | 2                          | 4       |
| French.....                                                                                           | 2                          | 1                          | 3       |
| Italian.....                                                                                          | 2                          | 2                          | 4       |
| Japanese.....                                                                                         | 8                          | 4                          | 12      |
| Mexican.....                                                                                          | 4                          |                            | 4       |
| Norwegian.....                                                                                        | 2                          | 3                          | 5       |
| Panamanian.....                                                                                       | 1                          |                            | 1       |
| Peruvian.....                                                                                         | 2                          | 3                          | 5       |
| Swedish.....                                                                                          | 1                          | 2                          | 3       |
| United States.....                                                                                    | 36                         | 37                         | 73      |
| Total, July, 1921.....                                                                                | 105                        | 101                        | 206     |
| Total, June, 1921.....                                                                                | 103                        | 89                         | 192     |
| Total, July, 1920.....                                                                                | 107                        | 118                        | 225     |
| United States equivalent net tonnage of commercial vessels passing through the Canal, by nationality: |                            |                            |         |
| British.....                                                                                          | 124,878                    | 121,301                    | 246,179 |
| Chilean.....                                                                                          | 1,811                      | 3,608                      | 5,419   |
| Danish.....                                                                                           | 17,472                     | 9,944                      | 27,416  |
| Dutch.....                                                                                            | 6,992                      | 7,006                      | 13,998  |
| French.....                                                                                           | 3,638                      | 4,326                      | 7,964   |
| Italian.....                                                                                          | 3,149                      | 6,049                      | 9,198   |
| Japanese.....                                                                                         | 33,741                     | 17,176                     | 50,917  |
| Mexican.....                                                                                          | 564                        |                            | 564     |

<sup>1</sup> Commercial traffic includes all ocean-going vessels transiting the Canal, excepting vessels owned or chartered by the United States Government.

| Nationality.                                                                                                    | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.       |
|-----------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|--------------|
| United States equivalent net tonnage of commercial vessels passing through the Canal, by nationality—Continued: |                            |                            |              |
| Norwegian .....                                                                                                 | 8,927                      | 9,846                      | 18,773       |
| Panaman .....                                                                                                   | 69                         |                            | 69           |
| Peruvian .....                                                                                                  | 2,495                      | 3,699                      | 6,194        |
| Swedish .....                                                                                                   | 2,248                      | 6,719                      | 8,967        |
| United States .....                                                                                             | 118,346                    | 138,435                    | 256,781      |
| Total, July, 1921 .....                                                                                         | 324,330                    | 328,109                    | 652,439      |
| Total, June, 1921 .....                                                                                         | 336,515                    | 277,379                    | 613,894      |
| Total, July, 1920 .....                                                                                         | 295,834                    | 409,809                    | 705,643      |
| Panama Canal net tonnage of commercial vessels passing through the Canal, by nationality:                       |                            |                            |              |
| British .....                                                                                                   | 151,882                    | 148,195                    | 300,077      |
| Chilean .....                                                                                                   | 3,182                      | 6,250                      | 9,432        |
| Danish .....                                                                                                    | 21,007                     | 12,120                     | 33,127       |
| Dutch .....                                                                                                     | 9,618                      | 9,669                      | 19,287       |
| French .....                                                                                                    | 4,170                      | 4,363                      | 8,533        |
| Italian .....                                                                                                   | 3,600                      | 5,060                      | 11,660       |
| Japanese .....                                                                                                  | 37,455                     | 19,770                     | 57,225       |
| Mexican .....                                                                                                   | 348                        |                            | 348          |
| Norwegian .....                                                                                                 | 10,680                     | 11,422                     | 22,102       |
| Panaman .....                                                                                                   | 69                         |                            | 69           |
| Peruvian .....                                                                                                  | 5,356                      | 7,742                      | 13,098       |
| Swedish .....                                                                                                   | 4,089                      | 10,129                     | 14,218       |
| United States .....                                                                                             | 151,595                    | 169,842                    | 321,437      |
| Total, July, 1921 .....                                                                                         | 403,051                    | 407,562                    | 810,613      |
| Total, June, 1921 .....                                                                                         | 415,302                    | 346,175                    | 761,477      |
| Total, July, 1920 .....                                                                                         | 361,850                    | 494,948                    | 856,798      |
| Registered gross tonnage of commercial vessels passing through the Canal, by nationality:                       |                            |                            |              |
| British .....                                                                                                   | 192,822                    | 188,063                    | 380,885      |
| Chilean .....                                                                                                   | 3,798                      | 7,612                      | 11,410       |
| Danish .....                                                                                                    | 26,279                     | 15,216                     | 41,495       |
| Dutch .....                                                                                                     | 10,685                     | 11,039                     | 21,724       |
| French .....                                                                                                    | 5,796                      | 5,923                      | 11,719       |
| Italian .....                                                                                                   | 5,355                      | 10,530                     | 15,885       |
| Japanese .....                                                                                                  | 49,558                     | 26,274                     | 75,832       |
| Mexican .....                                                                                                   | 1,104                      |                            | 1,104        |
| Norwegian .....                                                                                                 | 14,103                     | 15,566                     | 29,669       |
| Panaman .....                                                                                                   | 123                        |                            | 123          |
| Peruvian .....                                                                                                  | 8,049                      | 12,452                     | 20,501       |
| Swedish .....                                                                                                   | 3,767                      | 10,877                     | 14,644       |
| United States .....                                                                                             | 187,231                    | 210,580                    | 397,811      |
| Total, July, 1921 .....                                                                                         | 508,670                    | 514,132                    | 1,022,802    |
| Total, June, 1921 .....                                                                                         | 520,884                    | 439,973                    | 960,857      |
| Total, July, 1920 .....                                                                                         | 469,188                    | 639,891                    | 1,109,079    |
| Registered net tonnage of commercial vessels passing through the Canal, by nationality:                         |                            |                            |              |
| British .....                                                                                                   | 120,753                    | 119,566                    | 240,119      |
| Chilean .....                                                                                                   | 2,272                      | 4,560                      | 6,832        |
| Danish .....                                                                                                    | 17,508                     | 9,717                      | 27,225       |
| Dutch .....                                                                                                     | 7,069                      | 7,062                      | 14,131       |
| French .....                                                                                                    | 3,689                      | 3,763                      | 7,452        |
| Italian .....                                                                                                   | 3,160                      | 6,496                      | 9,656        |
| Japanese .....                                                                                                  | 32,483                     | 16,954                     | 49,437       |
| Mexican .....                                                                                                   | 476                        |                            | 476          |
| Norwegian .....                                                                                                 | 8,915                      | 9,810                      | 18,725       |
| Panaman .....                                                                                                   | 72                         |                            | 72           |
| Peruvian .....                                                                                                  | 4,187                      | 6,277                      | 10,464       |
| Swedish .....                                                                                                   | 2,865                      | 8,233                      | 11,098       |
| United States .....                                                                                             | 118,314                    | 136,367                    | 254,681      |
| Total, July, 1921 .....                                                                                         | 321,763                    | 328,605                    | 650,368      |
| Total, June, 1921 .....                                                                                         | 331,420                    | 279,071                    | 610,491      |
| Total, July, 1920 .....                                                                                         | 295,519                    | 407,432                    | 702,951      |
| Tolls levied against commercial vessels passing through the Canal, by nationality:                              |                            |                            |              |
| British .....                                                                                                   | \$153,563.26               | \$149,948.83               | \$303,512.09 |
| Chilean .....                                                                                                   | 2,263.75                   | 4,510.00                   | 6,773.75     |
| Danish .....                                                                                                    | 19,428.61                  | 12,430.00                  | 31,858.61    |

| Nationality.                                                                                 | Atlantic<br>to<br>Pacife. | Pacific<br>to<br>Atlantic. | Total.       |
|----------------------------------------------------------------------------------------------|---------------------------|----------------------------|--------------|
| Tolls levied against commercial vessels passing through the Canal, by nationality—Continued: |                           |                            |              |
| Dutch.....                                                                                   | \$8,740.00                | \$8,757.50                 | \$17,497.50  |
| French.....                                                                                  | 10,627.50                 | 5,255.60                   | 15,883.10    |
| Italian.....                                                                                 | 5,876.25                  | 7,561.25                   | 13,437.50    |
| Japanese.....                                                                                | 41,626.80                 | 21,302.55                  | 62,929.35    |
| Mexican.....                                                                                 | 433.65                    |                            | 433.65       |
| Norwegian.....                                                                               | 9,267.21                  | 8,555.25                   | 17,822.46    |
| Panamanian.....                                                                              | 51.75                     |                            | 51.75        |
| Peruvian.....                                                                                | 3,118.75                  | 4,623.75                   | 7,742.50     |
| Swedish.....                                                                                 | 2,810.00                  | 8,398.75                   | 11,208.75    |
| United States.....                                                                           | 147,412.65                | 167,959.45                 | 315,372.10   |
| Total, July, 1921.....                                                                       | 405,220.18                | 399,282.93                 | 804,503.11   |
| Total, June, 1921.....                                                                       | 410,829.32                | 335,421.05                 | 746,250.37   |
| Total, July, 1920.....                                                                       | 364,740.49                | 477,571.56                 | 842,312.05   |
| Tons of cargo carried by commercial vessels passing through the Canal, by nationality:       |                           |                            |              |
| British.....                                                                                 | 94,119                    | 145,731                    | 239,850      |
| Chilean.....                                                                                 | 420                       | 695                        | 1,115        |
| Danish.....                                                                                  | 7,051                     | 21,520                     | 28,571       |
| Dutch.....                                                                                   | 4,811                     | 13,156                     | 17,967       |
| French.....                                                                                  | 205                       | 4,000                      | 4,205        |
| Italian.....                                                                                 | 700                       | 2,804                      | 3,504        |
| Japanese.....                                                                                | 39,236                    | 29,148                     | 68,384       |
| Mexican.....                                                                                 | 10                        |                            | 10           |
| Norwegian.....                                                                               | 5,400                     | 820                        | 6,220        |
| Peruvian.....                                                                                | 609                       | 4,284                      | 4,893        |
| Swedish.....                                                                                 | 2,181                     | 15,861                     | 18,042       |
| United States.....                                                                           | 103,698                   | 212,523                    | 316,221      |
| Total, July, 1921.....                                                                       | 258,440                   | 450,542                    | 708,982      |
| Total, June, 1921.....                                                                       | 359,584                   | 335,136                    | 694,720      |
| Total, July, 1920.....                                                                       | 398,317                   | 488,497                    | 886,814      |
| A further classification of the above commercial traffic:                                    |                           |                            |              |
| Cargo-carrying vessels—                                                                      |                           |                            |              |
| Laden.....                                                                                   | 87                        | 92                         | 179          |
| Ballast.....                                                                                 | 10                        | 6                          | 16           |
| Trawlers.....                                                                                | 3                         |                            |              |
| Yachts.....                                                                                  | 2                         |                            | 2            |
| Warships.....                                                                                | 2                         | 3                          | 5            |
| Cable repair ship.....                                                                       | 1                         |                            | 1            |
| Total commercial vessels.....                                                                | 105                       | 101                        | 206          |
| Tonnage of above vessels, Panama Canal net measurement:                                      |                           |                            |              |
| Cargo-carrying vessels—                                                                      |                           |                            |              |
| Laden.....                                                                                   | 375,512                   | 377,179                    | 752,691      |
| Ballast.....                                                                                 | 26,299                    | 30,383                     | 56,682       |
| Trawlers.....                                                                                | 261                       |                            | 261          |
| Yachts.....                                                                                  | 29                        |                            | 29           |
| Cable repair ship.....                                                                       | 950                       |                            | 950          |
| Displacement tonnage—                                                                        |                           |                            |              |
| Warships.....                                                                                | 16,040                    | 5,744                      | 21,784       |
| Tolls paid on above ships:                                                                   |                           |                            |              |
| Cargo-carrying vessels—                                                                      |                           |                            |              |
| Laden.....                                                                                   | \$374,223.30              | \$374,267.75               | \$748,491.05 |
| Ballast.....                                                                                 | 21,777.63                 | 22,143.18                  | 43,920.81    |
| Trawlers.....                                                                                | 37.50                     |                            | 37.50        |
| Yachts.....                                                                                  | 21.75                     |                            | 21.75        |
| Warships.....                                                                                | 8,020.00                  | 2,872.00                   | 10,892.00    |
| Cable ship.....                                                                              | 1,140.00                  |                            | 1,140.00     |
| Total tolls, commercial vessels.....                                                         | \$405,220.18              | \$399,282.93               | \$804,503.11 |
| Motor ships through the Canal.....                                                           | 9                         | 7                          | 16           |
| Panama Canal net tonnage of above.....                                                       | 35,789                    | 17,598                     | 53,387       |
| Sailing vessels through the Canal <sup>1</sup> .....                                         | 6                         |                            | 6            |
| Panama Canal net tonnage of above.....                                                       | 1,633                     |                            | 1,633        |
| Cargo carried by commercial vessels.....                                                     | 258,440                   | 450,542                    | 708,982      |
| Average rate of tolls per cargo ton <sup>2</sup> .....                                       | \$1.53                    | \$0.88                     | \$1.12       |
| Average rate of tolls per cargo ton <sup>3</sup> .....                                       | 1.44                      | 0.83                       | 1.05         |

<sup>1</sup> Including 4 trawlers<sup>2</sup> Including cargo-carrying ships in ballast.<sup>3</sup> Laden vessels only.



CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.<sup>1</sup>

The following statement shows the tonnage of, and amount of cargo carried by United States Government vessels passing through the Panama Canal during the month of July, 1921. This traffic passes through the Panama Canal free of tolls; if tolls had been assessed against these vessels, however, at commercial rates, the amounts collected would have been as indicated below.

In this statement is also included the number and tonnage of launches transiting the Canal, together with tolls collected thereon. Although paying tolls they are included in the noncommercial traffic, being small nonseagoing vessels of under 10 tons measurement.

|                                                                            | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|----------------------------------------------------------------------------|----------------------------|----------------------------|-------------|
| United States Navy vessels:                                                |                            |                            |             |
| Battleships.....                                                           | 3                          |                            | 3           |
| Cruisers.....                                                              |                            | 1                          | 1           |
| Gunboats.....                                                              | 1                          | 1                          | 2           |
| Submarines.....                                                            |                            | 2                          | 2           |
| Submarine chasers.....                                                     | 3                          | 3                          | 6           |
| Tug.....                                                                   |                            | 1                          | 1           |
| Colliers.....                                                              |                            | 2                          | 2           |
| Total naval vessels.....                                                   | 7                          | 10                         | 17          |
| United States Army vessels:                                                |                            |                            |             |
| Mineplanter.....                                                           |                            | 1                          | 1           |
| Launch.....                                                                | 1                          |                            | 1           |
| Total Army vessels.....                                                    | 1                          | 1                          | 2           |
| Vessels chartered to carry Government supplies.....                        | 3                          | 1                          | 4           |
| Panaman Government vessels.....                                            | 2                          | 3                          | 5           |
| Total vessels through Canal free of tolls.....                             | 13                         | 15                         | 28          |
| Tonnage of above vessels:                                                  |                            |                            |             |
| Displacement tonnage—                                                      |                            |                            |             |
| Naval vessels.....                                                         | 88,117                     | 6,907                      | 95,024      |
| Panama Canal net tonnage—                                                  |                            |                            |             |
| Naval vessels.....                                                         |                            | 13,099                     | 13,099      |
| Army vessels.....                                                          | 10                         | 403                        | 413         |
| Vessels with Government supplies.....                                      | 10,184                     | 5,259                      | 15,443      |
| Panaman Government vessels.....                                            | 90                         | 30                         | 120         |
| Total Panama Canal net tonnage.....                                        | 10,284                     | 18,791                     | 29,075      |
| Cargo carried by above vessels:                                            |                            |                            |             |
| Naval vessels.....                                                         |                            | 2,200                      | 2,200       |
| Vessels with Government supplies.....                                      | 15,684                     | 668                        | 16,352      |
| Total cargo through Canal free of tolls.....                               | 15,684                     | 2,868                      | 18,552      |
| Tolls which above vessels would have paid if assessed at commercial rates: |                            |                            |             |
| Naval vessels.....                                                         | \$44,058.50                | \$18,497.50                | \$62,556.00 |
| Army vessels.....                                                          | 7.20                       | 290.16                     | 297.36      |
| Vessels with Government supplies.....                                      | 10,226.70                  | 6,310.80                   | 16,537.50   |
| Panama Government vessels.....                                             | 64.80                      | 21.60                      | 86.40       |
| Total.....                                                                 | 54,357.20                  | 25,120.06                  | 79,477.26   |
| Launches through the Canal.....                                            | 2                          | 1                          | 3           |
| Net tonnage of above, Panama Canal measurement.....                        | 5                          | 1                          | 6           |
| Tolls collected on above.....                                              | \$5.55                     | \$0.75                     | \$6.30      |

<sup>1</sup> Vessels, barges, tugs, launches, etc., in the service of The Panama Canal are not included in this statement of traffic.

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal are shown in the following tabulation:

|                                       | Cristobal. | Balboa. | Total. |
|---------------------------------------|------------|---------|--------|
| Vessels passing through the Canal:    |            |         |        |
| Commercial.....                       | 105        | 101     | 206    |
| United States Government vessels..... | 11         | 12      | 23     |
| Panaman Government vessels.....       | 2          | 3       | 5      |
| Launches (under 10 tons).....         | 2          | 1       | 3      |
| Total vessels and craft.....          | 120        | 117     | 237    |



|                                                                          | Cristobal. | Balboa.   | Total.    |
|--------------------------------------------------------------------------|------------|-----------|-----------|
| Tonnage of above vessels:                                                |            |           |           |
| Panama Canal net measurement—                                            |            |           |           |
| Commercial vessels.....                                                  | 403,051    | 407,562   | 810,613   |
| United States Government vessels.....                                    | 10,194     | 18,761    | 28,955    |
| Panama Government vessels.....                                           | 90         | 30        | 120       |
| Launches.....                                                            | 5          | 1         | 6         |
| Displacement tonnage—                                                    |            |           |           |
| Commercial vessels.....                                                  | 16,040     | 5,744     | 21,784    |
| United States Government vessels.....                                    | 88,117     | 6,907     | 95,024    |
| Cargo carried by above vessels:                                          |            |           |           |
| Commercial..... tons.....                                                | 258,440    | 450,542   | 708,982   |
| United States Government vessels..... tons.....                          | 15,684     | 2,868     | 18,552    |
| Total cargo through the Canal..... tons.....                             | 274,124    | 453,410   | 727,534   |
| Deck cargo included in the above..... tons.....                          | 459        | 3,252     | 3,711     |
| Vessels entering port but not transiting Canal:                          |            |           |           |
| Number entering.....                                                     | 53         | 7         | 60        |
| Number clearing.....                                                     | 50         | 7         | 57        |
| Registered gross tonnage of above:                                       |            |           |           |
| Entering.....                                                            | 219,729    | 34,607    | 254,336   |
| Clearing.....                                                            | 213,381    | 34,307    | 247,688   |
| Registered net tonnage of above:                                         |            |           |           |
| Entering.....                                                            | 137,318    | 23,176    | 160,494   |
| Clearing.....                                                            | 133,389    | 22,876    | 156,265   |
| Vessels transiting the Canal and handling passengers or cargo at port:   |            |           |           |
| Number entering.....                                                     | 50         | 49        | 99        |
| Number clearing.....                                                     | 47         | 50        | 97        |
| Registered gross tonnage of above:                                       |            |           |           |
| Entering.....                                                            | 225,036    | 200,889   | 425,925   |
| Clearing.....                                                            | 124,062    | 201,192   | 325,254   |
| Registered net tonnage of above:                                         |            |           |           |
| Entering.....                                                            | 130,817    | 129,992   | 260,809   |
| Clearing.....                                                            | 124,062    | 129,210   | 253,272   |
| All vessels entering and clearing, including those transiting the Canal: |            |           |           |
| Entering.....                                                            | 254        | 220       | 474       |
| Clearing.....                                                            | 247        | 232       | 479       |
| Registered gross tonnage of above:                                       |            |           |           |
| Entering.....                                                            | 1,371,457  | 1,200,621 | 2,572,078 |
| Clearing.....                                                            | 1,309,877  | 1,255,811 | 2,565,688 |
| Registered net tonnage of above:                                         |            |           |           |
| Entering.....                                                            | 914,961    | 807,326   | 1,724,287 |
| Clearing.....                                                            | 869,090    | 840,482   | 1,709,572 |
| Transit cargo arriving..... tons.....                                    | 741,269    | 728,422   | 1,469,682 |
| Transit cargo clearing..... tons.....                                    | 706,795    | 749,748   | 1,456,543 |
| Local cargo arriving..... tons.....                                      | 22,700     | 2,906     | 25,606    |
| Local cargo shipped..... tons.....                                       | 2,129      | 383       | 2,512     |
| Cargo received for transshipment..... tons.....                          | 24,438     | 101       | 24,539    |
| Cargo transhipped..... tons.....                                         | 28,925     | 8         | 28,933    |
| Cargo handled by Receiving and Forwarding Agency, Panama Railroad:       |            |           |           |
| Received..... tons.....                                                  | 41,494     | 3,176     | 44,670    |
| Dispatched..... tons.....                                                | 26,177     | 491       | 26,668    |
| Rehandled..... tons.....                                                 | 2,522      | 676       | 3,198     |
| Stevedored..... tons.....                                                | 25,466     | 2,466     | 27,932    |
| Vessels supplied with bunker coal:                                       |            |           |           |
| Commercial, other than Panama Railroad.....                              | 65         | 8         | 73        |
| Panama Railroad vessels.....                                             | 7          |           | 7         |
| United States Army vessels.....                                          | 2          | 1         | 3         |
| Total vessels supplied with bunker coal.....                             | 74         | 9         | 83        |
| Coal supplied to above vessels:                                          |            |           |           |
| Commercial, other than Panama Railroad..... tons.....                    | 22,139     | 2,015     | 24,154    |
| Panama Railroad vessels..... tons.....                                   | 1,218      |           | 1,218     |
| United States Army vessels..... tons.....                                | 87         | 31        | 118       |
| Total coal supplied to vessels..... tons.....                            | 23,444     | 2,046     | 25,490    |
| Coal issues, miscellaneous:                                              |            |           |           |
| Panama Canal departments..... tons.....                                  | 796        | 99        | 895       |
| Panama Railroad departments..... tons.....                               | 495        |           | 495       |

|                                                              | Cristobal.  | Balboa.     | Total.      |
|--------------------------------------------------------------|-------------|-------------|-------------|
| Coal issues, miscellaneous—Continued.                        |             |             |             |
| United States Army, excepting vessels..... tons ..           | 307         |             | 307         |
| Individuals and companies..... tons ..                       | 423         |             | 423         |
| Total coal furnished from Panama Canal deposits..... tons .. | 25,465      | 2,145       | 27,610      |
| Coal on hand, August 1, 1921..... tons ..                    | 111,354     | 14,688      | 126,042     |
| Coal on hand, July 1, 1921..... tons ..                      | 127,850     | 16,833      | 144,683     |
| Coal received during July, 1921..... tons ..                 | 8,969       |             | 8,969       |
| <i>United States Navy coal account.</i>                      |             |             |             |
| Issued to United States Navy, including vessels..... tons .. | 1,708       | 570         | 2,278       |
| Coal on hand, August 1, 1921..... tons ..                    | 61,345      | 14,899      | 76,244      |
| Coal on hand, July 1, 1921..... tons ..                      | 63,053      | 15,469      | 78,522      |
| Fuel oil issues, miscellaneous:                              |             |             |             |
| To Panama Canal departments..... bbls ..                     | 4,197       | 17,577      | 21,774      |
| To Panama Railroad..... bbls ..                              | 611         | 189         | 800         |
| To Army and Navy..... bbls ..                                | 708         | 241         | 949         |
| Total issues..... bbls ..                                    | 5,516       | 18,007      | 23,523      |
| Transferred to pipe line..... bbls ..                        | 276         |             | 276         |
| Fuel oil on hand, August 1, 1921..... bbls ..                | 86,257      | 101,448     | 187,705     |
| Fuel oil on hand, July 1, 1921..... bbls ..                  | 92,049      | 93,941      | 185,990     |
| Loaned to United States Shipping Board..... bbls ..          |             | 4,437       | 4,437       |
| Received from United States Shipping Board..... bbls ..      |             | 29,951      | 29,951      |
| Diesel oil issued during the month..... bbls ..              | 245         | 50          | 298         |
| Transferred to pipe line..... bbls ..                        | 71          |             | 71          |
| Diesel oil on hand, August 1, 1921..... bbls ..              | 51,614      | 976         | 52,590      |
| Diesel oil on hand, July 1, 1921..... bbls ..                | 51,933      | 1,026       | 52,959      |
| Oil pumped for individuals and companies..... bbls ..        | 199,400     | 63,124      | 262,524     |
| Miscellaneous transfers..... bbls ..                         | 7,508       |             | 7,508       |
| Total oil handled..... bbls ..                               | 213,019     | 81,181      | 294,200     |
| Vessels furnished with commissary supplies :                 |             |             |             |
| Commercial, other than Panama Railroad.....                  | 124         | 52          | 176         |
| Panama Railroad.....                                         | 8           | 1           | 9           |
| United States Government.....                                | 8           | 14          | 22          |
| Total vessels furnished supplies.....                        | 140         | 67          | 207         |
| Commissary sales to commercial vessels:                      |             |             |             |
| Ice.....                                                     | \$2,863.24  | \$917.95    | \$3,781.19  |
| Wholesale groceries.....                                     | 3,607.31    | 1,563.07    | 5,170.38    |
| Wholesale cold storage.....                                  | 18,743.43   | 6,956.42    | 25,699.85   |
| Laundry.....                                                 | 3,717.52    | 1,050.92    | 4,768.44    |
| Miscellaneous.....                                           | 1,226.52    | 440.15      | 1,666.67    |
| Total.....                                                   | 30,158.02   | 10,928.51   | 41,086.53   |
| Commissary sales to Panama Railroad vessels:                 |             |             |             |
| Ice.....                                                     | \$48.20     |             | \$48.20     |
| Wholesale groceries.....                                     | 921.46      | \$8.13      | 929.59      |
| Wholesale cold storage.....                                  | 3,503.28    |             | 3,503.28    |
| Laundry.....                                                 | 1,192.90    |             | 1,192.90    |
| Miscellaneous.....                                           | 402.90      | 34.80       | 437.70      |
| Total.....                                                   | 6,068.74    | 42.93       | 6,111.67    |
| Commissary sales to United States Government vessels:        |             |             |             |
| Ice.....                                                     | \$32.85     | \$496.92    | \$529.77    |
| Wholesale groceries.....                                     | 367.47      | 6,302.19    | 6,669.66    |
| Wholesale cold storage.....                                  | 1,686.77    | 15,116.57   | 16,803.34   |
| Laundry.....                                                 | 21.99       | 7.29        | 29.28       |
| Miscellaneous.....                                           | 158.81      | 217.77      | 376.58      |
| Total.....                                                   | 2,267.89    | 22,140.74   | 24,408.63   |
| Total commissary sales to all vessels:                       |             |             |             |
| July, 1921.....                                              | \$38,494.65 | \$33,112.18 | \$71,606.83 |
| June, 1921.....                                              | 47,070.85   | 39,407.43   | 86,478.28   |
| July, 1920.....                                              | 122,382.48  | 69,590.11   | 191,972.59  |
| Admeasurement certificates:                                  |             |             |             |
| United States equivalent issued or made.....                 | 22          | 4           | 26          |
| Measured for Panama Canal.....                               | 9           | 9           | 18          |
| United States equivalent or Panama Canal corrected.....      | 29          | 10          | 39          |
| Services of harbor equipment:                                |             |             |             |
| Tugs, total operating hours.....                             | 489         | 399         | 888         |
| Launches, total operating hours.....                         | 1,229       | 1,270       | 2,499       |

|                                                           | Cristobal.  | Balboa.    | Total.      |
|-----------------------------------------------------------|-------------|------------|-------------|
| <b>Vessels repaired at Panama Canal shops:</b>            |             |            |             |
| Commercial—                                               |             |            |             |
| Steamships .....                                          | 38          | 17         | 55          |
| Motorships .....                                          | 3           | 1          | 4           |
| Battleship .....                                          | 1           | 1          | 1           |
| Cruiser .....                                             | 1           | 1          | 1           |
| Yacht .....                                               | 1           | 1          | 1           |
| Trawler .....                                             | 1           |            | 1           |
| Noncommercial—                                            |             |            |             |
| Submarines .....                                          | 2           | 2          | 4           |
| Tugs .....                                                | 2           |            | 2           |
| Steamships .....                                          | 1           |            | 1           |
| Minesweeper .....                                         | 1           |            | 1           |
| Subchaser .....                                           | 1           | 1          | 1           |
| Launches .....                                            | 5           | 1          | 6           |
| Barges .....                                              | 2           |            | 2           |
| Totals .....                                              | 55          | 25         | 80          |
| <b>Vessels dry-docked:</b>                                |             |            |             |
| Commercial—                                               |             |            |             |
| Steamers .....                                            | 2           | 3          | 5           |
| Cruiser .....                                             |             | 1          | 1           |
| Noncommercial:                                            |             |            |             |
| Tugs .....                                                | 3           |            | 3           |
| Barges .....                                              | 2           |            | 2           |
| Subchaser .....                                           |             | 1          | 1           |
| Dredge .....                                              |             | 1          | 1           |
| Totals .....                                              | 7           | 6          | 13          |
| <b>Services to American vessels:</b>                      |             |            |             |
| Crews shipped .....                                       | 1           |            | 1           |
| Crews paid off .....                                      | 1           |            | 1           |
| Shipping articles written .....                           | 1           |            | 1           |
| Marine notes of protest entered .....                     | 23          | 4          | 27          |
| <b>Services to American seamen:</b>                       |             |            |             |
| Seamen shipped .....                                      | 212         | 28         | 240         |
| Seamen discharged .....                                   | 115         | 62         | 177         |
| Seamen lodged and subsisted .....                         | 23          | 13         | 36          |
| Seamen repatriated .....                                  | 15          | 14         | 29          |
| Seamen deserted .....                                     | 16          | 7          | 23          |
| Seamen deceased .....                                     |             | 1          | 1           |
| <b>Wages of American seamen:</b>                          |             |            |             |
| Total wages earned .....                                  | \$15,766.83 | \$2,958.54 | \$18,725.37 |
| Deductions approved by Deputy Shipping Commissioner ..... | 4,485.70    | 609.47     | 5,095.17    |
| Balance due seamen .....                                  | 11,281.13   | 2,349.07   | 13,630.20   |
| Paid to seamen .....                                      | 9,263.59    | 1,445.11   | 10,708.70   |
| Received on deposit for seamen .....                      | 2,017.54    | 903.96     | 2,921.50    |
| Clearances issued .....                                   | 129         | 117        | 246         |
| Bills of health issued .....                              | 129         | 126        | 255         |
| <i>Movement of passengers.</i>                            |             |            |             |
| <b>Disembarking at Canal ports:</b>                       |             |            |             |
| First class—                                              |             |            |             |
| From Atlantic ports .....                                 | 1,039       | 2          | 1,041       |
| From Pacific ports .....                                  | 151         | 143        | 294         |
| Total, first class .....                                  | 1,190       | 145        | 1,335       |
| Other than first class—                                   |             |            |             |
| From Atlantic ports .....                                 | 879         | 3          | 882         |
| From Pacific ports .....                                  | 37          | 105        | 142         |
| Total, other than first class .....                       | 916         | 108        | 1,024       |
| Total disembarking at Canal ports .....                   | 2,106       | 253        | 2,359       |
| <b>Embarking from Canal ports:</b>                        |             |            |             |
| First class—                                              |             |            |             |
| For Atlantic ports .....                                  | 1,516       |            | 1,516       |
| For Pacific ports .....                                   | 211         | 125        | 336         |
| Total, first class .....                                  | 1,727       | 125        | 1,852       |
| Other than first class—                                   |             |            |             |
| For Atlantic ports .....                                  | 826         |            | 826         |
| For Pacific ports .....                                   | 82          | 162        | 244         |
| Total, other than first class .....                       | 908         | 162        | 1,070       |
| Total embarking from Canal ports .....                    | 2,635       | 287        | 2,922       |

|                                            | Cristobal. | Balboa. | Total. |
|--------------------------------------------|------------|---------|--------|
| Remaining on board vessels:                |            |         |        |
| First class—                               |            |         |        |
| Bound from Atlantic to Pacific ports.....  | 627        | 739     | 1,366  |
| Bound from Pacific to Atlantic ports.....  | 350        | 489     | 839    |
| Bound from Atlantic to Atlantic ports..... | 263        |         | 263    |
| Bound from Pacific to Pacific ports.....   |            | 49      | 49     |
| Total, first class.....                    | 1,240      | 1,277   | 2,517  |
| Other than first class—                    |            |         |        |
| Bound from Atlantic to Pacific ports.....  | 1,778      | 1,805   | 3,583  |
| Bound from Pacific to Atlantic ports.....  | 272        | 305     | 577    |
| Bound from Atlantic to Atlantic ports..... | 68         |         | 68     |
| Bound from Pacific to Pacific ports.....   |            | 786     | 786    |
| Total, other than first class.....         | 2,118      | 2,896   | 5,014  |
| Total remaining on board.....              | 3,358      | 4,173   | 7,531  |
| Total passengers arriving.....             | 5,464      | 4,426   | 9,990  |
| Total passengers departing.....            | 5,993      | 4,460   | 10,453 |
| Departures in excess of arrivals.....      | 529        | 34      | 563    |

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks, and the consumption of water for lockages, for the month of July, 1921, as compared with that of the preceding month, and of the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                                 | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|---------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                 | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                      | 97          | 98     | 195    | 7              | 8      | 15     | 210          |
| Pedro Miguel.....               | 100         | 102    | 202    | 21             | 17     | 38     | 240          |
| Miraflores.....                 | 100         | 102    | 202    | 20             | 15     | 35     | 237          |
| Total lockages, July, 1921..... | 297         | 302    | 599    | 48             | 40     | 88     | 687          |
| Total lockages, June, 1921..... | 263         | 312    | 575    | 36             | 49     | 85     | 660          |
| Total lockages, July, 1920..... | 348         | 313    | 661    |                |        | 75     | 736          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|--------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                     | 102         | 110    | 212    | 29             | 20     | 49     | 261          |
| Pedro Miguel.....              | 102         | 108    | 210    | 47             | 34     | 81     | 291          |
| Miraflores.....                | 102         | 108    | 210    | 47             | 33     | 80     | 290          |
| Total vessels, July, 1921..... | 306         | 326    | 632    | 123            | 87     | 210    | 842          |
| Total vessels, June, 1921..... | 271         | 326    | 597    | 82             | 119    | 201    | 798          |
| Total vessels, July, 1920..... | 356         | 334    | 690    |                |        | 75     | 765          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                                  | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------------|--------|---------------|-------------|
| Army and Navy vessels.....       | 22     | 21            | 25          |
| Canal equipment.....             | 27     | 60            | 55          |
| Total noncommercial vessels..... | 49     | 81            | 80          |

The consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                    | Gatun.             | Pedro Miguel.      | Miraflores.        |
|------------------------------------|--------------------|--------------------|--------------------|
|                                    | <i>Cubic feet.</i> | <i>Cubic feet.</i> | <i>Cubic feet.</i> |
| Lockages.....                      | 785,760,000        | 799,720,000        | 732,030,000        |
| Leakage.....                       | 20,000,000         | 13,730,000         | 67,000,000         |
| Maintenance.....                   |                    |                    |                    |
| Total consumption, July, 1921..... | 805,760,000        | 804,450,000        | 799,030,000        |
| Total consumption, June, 1921..... | 778,640,000        | 690,620,000        | 754,580,000        |
| Total consumption, July, 1920..... | 946,740,000        | 838,050,000        | 773,280,000        |

## METEOROLOGY AND HYDROGRAPHY.

The rainfall for the month of July, 1921, was above normal everywhere except over the northern part of the Pacific section, the Pequení branch of the Chagres Valley, the upper Trinidad arm of Gatun Lake and the Atlantic coast. Totals ranged from 4.32 inches at Taboga to 20.71 inches at the Chilibrillo station. The greatest amount of precipitation recorded on any 1 day was 3.29 inches at Monte Lirio on the 16th. The estimated rainfall over Gatun Lake watershed area was 13.31 inches, as compared with an 11-year mean of 11.55 inches; while over the Chagres River watershed area above Alhajuela it was 13.92 inches, as compared with a 20-year mean of 14.81 inches.

The discharge of the Chagres River at Alhajuela was 2,547 c. f. s., being 10 per cent below the 20-year July mean of 2,840 c. f. s., and furnished 37 per cent of the Gatun Lake total yield. The maximum momentary discharge was 13,700 c. f. s. at elevation 98.19 feet on the 7th, and the minimum discharge was 1,400 c. f. s. There were 2 rises of 5 feet or over at Alhajuela during the month.

The Gatun Lake watershed total yield for the month was 6,902 c. f. s., being 1 per cent above the 11-year July mean of 6,862 c. f. s. The maximum total yield for the month of July, of record, was 10,967 c. f. s. in 1915; while the minimum total yield was 2,677 c. f. s. in 1914. The net yield for the month was 6,454 c. f. s. The lake varied in elevation from 84.27 feet on the 1st to 86.42 feet on the 31st, an increase in elevation of 2.15 feet, with an increase in storage of 9.75 billion cubic feet, which is the second largest month of storage accumulation on record, having been exceeded in July, 1920, with 12.57 billion cubic feet.

The draft on the lake for lockages and power was 2,123 c. f. s. as compared with 2,140 c. f. s. for last month, and 2,295 c. f. s. for July, 1920. The ratio of water expended for power and lockages was 2.61 to 1. Four spillway operations were made at Gatun during the month.

The Gamboa pumping plant and the Brazos Brook reservoir drew 39.2 and 38.5 millions of cubic feet, respectively, from the lake.

Miraflores Lake varied in elevation from 51.80 feet to 54.00 feet, and ended at elevation 53.78 feet, midnight, the 31st. Sixteen spillway operations were made at the Miraflores spillway during the month.

No seismic tremors were recorded during the month.

Temperature records for the month of July are given below:

|                     | Maximum. | Minimum. | Monthly mean. |
|---------------------|----------|----------|---------------|
| Balboa Heights..... | 91       | 70       | 80.5          |
| Gamboa.....         | 92       | 69       | 79.8          |
| Alhajuela.....      | 91       | 67       | 78.8          |
| Gatun.....          | 88       | 73       | 80.2          |
| Coleon.....         | 89       | 72       | 80.8          |

The following gives a comparison of the monthly rainfall by sections for July, 1920, and July, 1921:

| Section.      | Rainfall.      |                | Rainy days. |       |
|---------------|----------------|----------------|-------------|-------|
|               | 1921.          | 1920.          | 1921.       | 1920. |
|               | <i>Inches.</i> | <i>Inches.</i> |             |       |
| Pacific.....  | 7.93           | 9.09           | 19          | 22    |
| Central.....  | 14.10          | 15.01          | 26          | 25    |
| Atlantic..... | 12.42          | 16.83          | 28          | 26    |

## ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., is shown in comparative form in the following tabulation:



|                                                                                | July, 1921.   | June, 1921.   | July, 1920.   |
|--------------------------------------------------------------------------------|---------------|---------------|---------------|
| Gross output, KWH:                                                             |               |               |               |
| Gatun hydroelectric station.....                                               | 5,541,100     | 5,294,930     | 5,994,290     |
| Miraflores steam plant.....                                                    | 500           | 7,750         | 15,330        |
| Combined gross output.....                                                     | 5,541,600     | 5,302,680     | 6,009,620     |
| Water consumption..... cubic feet..                                            | 4,110,077,816 | 4,168,884,000 | 4,438,210,000 |
| Oil consumption..... barrels..                                                 | 2,006         | 1,990         | 2,125         |
| Power distributed to consumers..... KWH..                                      | 4,601,656     | 4,404,350     | 4,948,356     |
| Loss of power in plant auxiliaries, transmission and transformation..... KWH.. | 939,944       | 898,300       | 1,061,174     |
| Per cent of loss of power to gross output.....                                 | 17.00         | 16.94         | 17.65         |

Miscellaneous repairs and installations of electrical equipment were made on 49 vessels during the month, 23 at Cristobal and 26 at Balboa. There were 429 work orders issued for work to be performed by the Electrical Division during the month of July, as compared with 437 for June.

The following new construction work was under progress during the month, with completion on July 31, as shown:

|                                                                                            | Per cent completed. |          |
|--------------------------------------------------------------------------------------------|---------------------|----------|
|                                                                                            | June 30.            | July 31. |
| Installation of new 8,400 KVA transformer and new tie-line equipment at Gatun substation.. | 70                  | 75       |
| Installation of 2 complete feeder equipments at the Balboa substation.....                 | 95                  | 95       |
| Extension of new underground distribution in New Cristobal.....                            | 99                  | 100      |
| Installation of electrical equipment at hydroelectric station.....                         | 45                  | 50       |

#### SHOP, FOUNDRY AND DRY DOCK WORK.

At the Balboa shops, miscellaneous repairs were made on 25 vessels, 6 of which were placed in dry dock. The more important repair work consisted of the following:

The steamship *Panama* was dry-docked for reboiling and general overhaul, including the renewal of a considerable amount of steel work in her hull. After the work was well under way, it was interrupted on July 23 until a decision could be reached by the Secretary of War as to whether to proceed with the repairs, or secure another Government vessel to replace the *Panama*. On July 30, word was received to proceed with the work, but owing to the extremely limited funds available, it will be possible to carry out only the most needed repairs on the vessel, in addition to renewing the boilers.

The French cruiser *Jules Michelet* was placed in dry dock and temporary repairs were made to the damaged portion of her hull to insure water-tightness until permanent repairs can be made. The damage to her hull was just below the junction of the protective deck with the shell, where the steel work is somewhat complicated, rendering permanent repairs awkward to such an extent that they could not be made within the limited time available.

Repairs to the submarine *R-25* were completed during the month. After the main motors had been removed from the *R-24*, a cable was received from the United States, announcing the decision of the Navy Department to repair the motors of the *R*-type submarines in the United States, and directing the replacing of the motors for departure of the vessel. The motors were replaced and the remaining work on the vessel completed. The above decision of the Navy Department applies to all of the *R*-type submarines in this vicinity.

In addition to not receiving the repair work on the various *R*-boats, the steamship *Katrina Luckenbach*, which at one time promised to develop a fair-sized job on her turbines, was towed to the United States for repairs at the builders' works. The order to suspend work on the steamship *Panama* came on top of this, so that it became necessary, on half an hour's notice, to furlough about one-half of the employees of the Balboa plant until a decision could be reached on the steamship *Panama*.

At the Cristobal shops, miscellaneous repairs were made on 55 vessels, 7 of which were dry-docked. The more important repair work consisted of the following:

The bearings of both engines of the steamship *Katrina Luckenbach* were opened up for examination, and 2 rotary bearings in the starboard engine and 2 high-speed pinion bearings, starboard engine, were renewed.

The steamship *Cauca* was docked, the bottom cleaned and painted, stern gland packed, sea inlets cleaned, pin hole in tank top welded, and new checks on port boiler fitted.

Two 6-inch cast iron low pressure gate valves, two 6-inch cast iron low pressure elbows, and four 6-inch low pressure screwed pipe flanges were supplied to the steamship *Solano*.

The installation of bulwarks on port and starboard sides, caulking of bulkheads between Nos. 1 and 2 tanks, and overhauling of main engines and other miscellaneous repairs were started on the motor ship *Linda*.

The tug *Tavernilla* was docked and the bottom cleaned and painted; boat deck was caulked, grooves in towing bitts aft electric welded, rudder removed, and shaft trued up and bushing and gland renewed.

The output of the Mechanical Division in patterns, castings, and foundry production for July, 1921, as compared with the preceding month, was as follows:

|            | July, 1921. |           |         | June, 1921. |           |         |
|------------|-------------|-----------|---------|-------------|-----------|---------|
|            | Patterns.   | Castings. | Pounds. | Patterns.   | Castings. | Pounds. |
| Iron.....  | 10          | 872       | 57,596  | 7           | 339       | 40,608  |
| Steel..... | 7           | 51        | 38,813  | 2           | 451       | 57,302  |
| Brass..... | 10          | 442       | 8,279   | 25          | 1,271     | 22,341  |

The routine inspection, hostling, and repair of equipment for the Panama Railroad Company was carried on during the month. Five hundred and twenty-seven job orders were completed during the month, with 230 remaining incomplected on July 31.

#### DREDGING DIVISION.

The movement of material over Cucaracha Slide continued during the month, but at a much slower rate than during the preceding month. A dipper dredge worked 10 days in front of this slide, removing in that time 44,150 cubic yards of material. Since February 22, 1920, 2,737,050 cubic yards of material have been removed from this slide.

A general movement occurred in the afternoon of July 14, 1921, in an old slide, on the east side of Gaillard Cut, one-half mile north of Culebra Slide and opposite the large repair station, carrying a mass of earth and rock into the Canal, amounting to about 185,000 cubic yards. This slide caused such shoaling in the Canal that a channel only 120 feet wide and 30 feet deep along the west bank was available for the passage of vessels. Two dipper dredges worked the remainder of the month in front of this slide, removing 149,450 cubic yards of material. No serious inconvenience to canal traffic and only a few hours' delay to vessels were occasioned by this slide, and no further movement has occurred since the above date.

The total excavation in July, including earth and rock, was 451,700 cubic yards, as follows:

| Cubic yards. | Classified as— |         | Character of work. | Stations.                                                               | Equipment.       |
|--------------|----------------|---------|--------------------|-------------------------------------------------------------------------|------------------|
|              | Earth.         | Rock.   |                    |                                                                         |                  |
| 10,700       | 1,600          | 9,100   | Maintenance.....   | <i>Gaillard Cut, Cucaracha Slide.</i><br>1805-00 to 1814-00 E.....      | <i>Paraiso.</i>  |
| 33,450       | 5,650          | 27,800  | Maintenance.....   | 1805-00 to 1814-00 E.....                                               | <i>Gamboa.</i>   |
| 75,150       | 20,350         | 54,800  | Maintenance.....   | <i>Gaillard Cut—E, Barge Repair Slide.</i><br>1746-00 to 1756-50 E..... | <i>Paraiso.</i>  |
| 74,300       | 22,300         | 52,000  | Maintenance.....   | 1746-00 to 1756-50 E.....                                               | <i>Cascadas.</i> |
| 4,000        | 800            | 3,200   | Maintenance.....   | <i>Gaillard Cut—W, Barge Repair Slide.</i><br>1738-00 to 1739-00 W..... | <i>Paraiso.</i>  |
| 13,800       | 5,800          | 8,000   | Maintenance.....   | <i>Pacific Entrance, Miraflores P. I.</i><br>2109-00 to 2115-00 W.....  | <i>Paraiso.</i>  |
| 10,300       | 2,300          | 8,000   | Maintenance.....   | <i>Pacific Entrance.</i><br>2298-00 to 2306-00 W.....                   | <i>Cascadas.</i> |
| 95,000       | 95,000         | .....   | Maintenance.....   | 2065-00 to 2105-00 E.....                                               | <i>No. 84.</i>   |
| 10,000       | 10,000         | .....   | Maintenance.....   | 2065-00 to 2105-00 E.....                                               | <i>No. 84.</i>   |
| 125,000      | 125,000        | .....   | Maintenance.....   | 2188-50 to 2219-00 W.....                                               | <i>No. 86.</i>   |
|              |                |         |                    | 2135-00 to 2140-40 W.....                                               | <i>No. 86.</i>   |
|              |                |         |                    | 2159-60 to 2171-00 W.....                                               | <i>No. 86.</i>   |
| 451,700      | 283,800        | 162,900 |                    |                                                                         |                  |

The material excavated at the various stations, was disposed of as follows:

|                               | Cubic yards. |
|-------------------------------|--------------|
| Dumped north of Gamboa.....   | 210,450      |
| Flats, west of Canal.....     | 115,000      |
| Arsenal fill.....             | 65,000       |
| San Juan fill.....            | 50,000       |
| At sea, Pacific entrance..... | 10,300       |
| North of Gold Hill.....       | 950          |
| Total.....                    | 451,700      |

## MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations, and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form:

|                                    | July, 1921.     | June, 1921.     | July, 1920.     |
|------------------------------------|-----------------|-----------------|-----------------|
|                                    | <i>Gallons.</i> | <i>Gallons.</i> | <i>Gallons.</i> |
| Pumping stations.....              | 734,423,000     | 703,156,500     | 774,598,950     |
| Filtration plants.....             | 449,527,000     | 431,750,000     | 471,023,000     |
| Water consumed by Panama City..... | 90,690,000      | 94,137,000      | 86,491,000      |
| Water consumed by Colon.....       | 55,490,000      | 57,934,250      | 52,230,500      |
| Sales of water to vessels.....     | 9,709,842       | 10,039,282      | 12,814,322      |

Construction work, as itemized below, was under progress during the month, with completion on July 31 as shown:

|                                                                          | Per cent completed. |          |
|--------------------------------------------------------------------------|---------------------|----------|
|                                                                          | June 30.            | July 31. |
| Municipal work, New Cristobal townsite:                                  |                     |          |
| Grading.....                                                             | 55                  | 55       |
| Roads.....                                                               | 97                  | 97       |
| Water lines.....                                                         | 72                  | 72       |
| Sidewalks.....                                                           | 86                  | 86       |
| Sanitary sewers.....                                                     | 75                  | 75       |
| Installation of two 12-inch oil lines, to Pier 6, Cristobal.....         | 70                  | 100      |
| New wash water tank, Miraflores.....                                     | 95                  | 95       |
| Construction of new concrete sea wall, Santo Tomas Hospital.....         | 36                  | 43       |
| Construction of sewer and water lines, Southern Avenue, Panama City..... | 56                  | 50       |
| Extension of roads, New Santo Tomas Hospital.....                        | 6                   | 6        |
| Storm drains, Santo Tomas Hospital.....                                  | 50                  | 100      |
| Sewer construction, Santo Tomas Hospital.....                            | 50                  | 100      |
| Concrete roof, low service reservoir.....                                | 20                  | 52       |
| Grading, Silver City, Mount Hope.....                                    |                     | 45       |
| Storm sewer, Balboa.....                                                 |                     | 97       |
| Storm drains, buildings 3 and 4, Balboa shops.....                       |                     | 20       |

\* Work discontinued by direction of the Auditor.

Municipal work performed for the Army and Navy is separately reported.

## OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                         | Men.  | Women. | Children. | Totals.     |             |             |
|-------------------------|-------|--------|-----------|-------------|-------------|-------------|
|                         |       |        |           | July, 1921. | June, 1921. | July, 1920. |
| Americans.....          | 2,832 | 2,049  | 2,399     | 7,280       | 7,515       | 8,241       |
| Europeans.....          | 141   | 29     | 68        | 238         | 213         | 224         |
| West Indians.....       | 5,130 | 2,590  | 5,249     | 12,969      | 12,602      | 10,637      |
| Totals, July, 1921..... | 8,103 | 4,668  | 7,716     | 20,487      |             |             |
| Totals, June, 1921..... | 8,008 | 4,686  | 7,646     |             | 20,340      |             |
| Totals, July, 1920..... | 8,657 | 4,042  | 6,403     |             |             | 19,102      |

## WORKING FORCE—NUMBER OF EMPLOYEES.

The following tabulation shows the number of gold employees, as of July 20, by departments, together with a comparison of the working force of the preceding month, and that of the corresponding month of last year:

| Department or division.             | Employees. |         | Totals.     |             |             |
|-------------------------------------|------------|---------|-------------|-------------|-------------|
|                                     | Gold.      | Silver. | July, 1921. | June, 1921. | July, 1920. |
| Operation and Maintenance:          |            |         |             |             |             |
| Office.....                         | 32         | 33      | 65          | 81          | 78          |
| Electrical Division.....            | 183        | 186     | 369         | 413         | 513         |
| Municipal Engineering Division..... | 88         | 777     | 865         | 850         | 1,314       |
| Lock Operation.....                 | 169        | 569     | 738         | 732         | 758         |
| Dredging Division.....              | 157        | 745     | 902         | 922         | 1,324       |
| Mechanical Division.....            | 642        | 1,066   | 1,708       | 1,645       | 2,733       |
| Marine Division.....                | 185        | 533     | 718         | 709         | 614         |
| Fortifications.....                 | 56         | 292     | 348         | 242         | 303         |
| Totals.....                         | 1,512      | 4,201   | 5,713       | 5,594       | 7,637       |

| Department or division.              | Employees. |         | Totals.     |             |             |
|--------------------------------------|------------|---------|-------------|-------------|-------------|
|                                      | Gold.      | Silver. | July, 1921. | June, 1921. | July, 1920. |
| Supply Department:                   |            |         |             |             |             |
| Quartermaster.....                   | 226        | 1,421   | 1,647       | 1,753       | 3,847       |
| Subsistence.....                     | 30         | 277     | 307         | 332         | 438         |
| Commissary.....                      | 229        | 1,172   | 1,401       | 1,405       | 1,967       |
| Cattle Industry, Plantations.....    | 16         | 143     | 159         | 173         | 542         |
| Hotel Washington.....                | 11         | 86      | 97          | 91          | 111         |
| Totals.....                          | 512        | 3,099   | 3,611       | 3,754       | 6,995       |
| Accounting Department.....           | 209        | 7       | 216         | 235         | 266         |
| Health Department.....               | 242        | 851     | 1,093       | 1,093       | 1,117       |
| Executive Department.....            | 546        | 233     | 779         | 822         | 778         |
| Totals.....                          | 997        | 1,091   | 2,088       | 2,150       | 2,161       |
| Panama Railroad:                     |            |         |             |             |             |
| Superintendent.....                  | 62         | 347     | 409         | 393         | 661         |
| Transportation.....                  | 90         | 124     | 214         | 219         | 333         |
| Receiving and Forwarding Agency..... | 63         | 894     | 962         | 753         | 1,287       |
| Coaling Stations.....                | 108        | 578     | 686         | 678         | 1,230       |
| Totals.....                          | 328        | 1,943   | 2,271       | 2,043       | 3,511       |
| Grand totals, July, 1921.....        | 3,349      | 10,334  | 13,683      |             |             |
| Grand totals, June, 1921.....        | 3,506      | 10,035  |             | 13,541      |             |
| Grand totals, July, 1920.....        | 4,600      | 15,614  |             |             | 20,214      |

\* Including employees of former Building Division.

#### VITAL STATISTICS.

A total of 180 deaths occurred during the month of July, 1921, among the population of the Canal Zone and the cities of Panama and Colon, giving an annual death rate of 17.27 per thousand. Of the total deaths, 10 were due to external causes.

Of the above deaths, 76, or 42 per cent, occurred among children under 5 years of age.

The leading causes of death were pneumonia, tuberculosis, and diarrhea and enteritis.

There were 15 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

Three hundred and nine live births were reported during the month and 17 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 31.28 per thousand population. Deaths among children under 1 year of age numbered 59, giving an infant mortality rate, based on the number of births reported for the month, of 190.94 per thousand.

One hundred and fifty-three cases of malaria were reported during the month, divided as follows: 24 employees, 89 soldiers, and 40 nonemployees; of these, 38 were contracted outside the Canal Zone.

There were 6 cases of typhoid fever reported, 3 in Panama, 2 in the Canal Zone, and 1 nonresident. There was 1 death, a white American employee, from typhoid fever. There were 3 cases of smallpox reported and no deaths.

#### RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, and cash sales from stock, as compared with the preceding month, and the corresponding month of last year, were as follows:

|                                                                                  | July, 1921.  | June, 1921.  | July, 1920.  |
|----------------------------------------------------------------------------------|--------------|--------------|--------------|
| Material received on U. S. requisitions during the month, chargeable as follows: |              |              |              |
| Operation and Maintenance.....                                                   | \$233,899.82 | \$398,824.99 | \$665,453.81 |
| Construction and equipment.....                                                  | 286.40       | 7,743.71     | 44,986.77    |
| Miscellaneous departments.....                                                   | 9,434.67     | 18,099.09    | 25,250.89    |
| Totals.....                                                                      | 243,618.89   | 424,667.79   | 745,691.47   |



|                                               | July, 1921. | June, 1921. | July, 1920. |
|-----------------------------------------------|-------------|-------------|-------------|
| Cash sales on the Isthmus:                    |             |             |             |
| Stock.....                                    | \$36,324 40 | \$29,550 31 | \$59,152 93 |
| Fuel oil (including sales to steamships)..... | 993 60      | 66 47       | 134,342 81  |
| Scrap.....                                    | 728 95      | 609 39      | 1,952 09    |
| Obsolete and second-hand material.....        | 3,040 20    | 3,756 51    | 3,018 83    |
| Totals.....                                   | 41,087 15   | 33,992 68   | 198,466 66  |
| Sales to steamships from storehouses:         |             |             |             |
| Miscellaneous stock items.....                | 17,594 80   | 13,361 82   | 30,554 03   |
| Fuel oil.....                                 | 993 60      |             | 119,372 66  |
| Totals.....                                   | 18,588 40   | 13,361 82   | 149,926 69  |

Respectfully,

JAY J. MORROW,  
Governor.

### Shipment of Raisins on Motor Ship "Kennebecott."

In her passage through the Canal on August 20, en route from San Francisco to New York, the motor ship *Kennebecott* carried 350 tons of dried raisins. This shipment was made by the California Associated Raisin Company on the motor ship for the purpose of testing this means of transportation, and the traffic manager of the company was quoted in the *Shipping Register* of San Francisco as saying that he anticipated it would be entirely satisfactory. In an article on the shipment the periodical makes the following comparison of the costs of shipping raisins from Fresno to Atlantic seaboard cities by rail and by ship through the Canal:

"FRESNO TO ATLANTIC SEABOARD CITIES.

|                                               | Per<br>100<br>pounds. | Per car<br>of 30 tons. |
|-----------------------------------------------|-----------------------|------------------------|
| Present all-rail rate.....                    | \$1.66½               | \$1,029 09             |
| War tax.....                                  | .05                   |                        |
|                                               | 1.71½                 |                        |
| Proposed all-rail rate.....                   | 1.25                  | 774 00                 |
| War tax.....                                  | .04                   |                        |
|                                               | 1.29                  |                        |
| Present water rate:                           |                       |                        |
| Fresno to San Francisco.....                  | .35                   | 600 00                 |
| San Francisco to Atlantic ports.....          | .55                   |                        |
| War tax, unloading, insurance, and tolls..... | .10                   |                        |
|                                               | 1.00                  |                        |

"Thus it appears that shippers of dried fruit are saving at the present time \$129 per car of 30 tons, and the saving to shippers via the Canal even after the railroads cut their transcontinental rate on dried fruits to \$1.25 will still amount to \$174 per car. When it is considered that California's dried fruit output reaches into thousands of cars annually, the saving is almost staggering. The actual saving on the 350 tons on the *Kennebecott* is \$4,719."

### Notice to Mariners.—Bocas del Toro Anchorage.

THE PANAMA CANAL, BALBOA HEIGHTS, C. Z., August 25, 1921.

CIRCULAR NO. 643-92:

The master of the steamship *Metapan* reports under date of August 23, that "Pillar Tree," a land mark shown on all charts by which anchorage in Bocas del Toro is made, is no longer visible, having either been blown down or fallen from decay. Owing to dangerous reefs at this point, caution should be exercised when anchoring.

JAY J. MORROW,  
Governor.



**Projected Pacific-European Service of American-Hawaiian Line.—Increased Coastwise Sailings.**

The *Shipping Register* of San Francisco, published in its issue of August 6 the following statement from Williams, Dimond & Company, Pacific Coast agents for the American-Hawaiian Steamship Company, operated by the United American Lines:

"The American-Hawaiian Steamship Company, operated by the United American Lines, will begin a fortnightly service between the Pacific Coast and Europe with American-Hawaiian steamers, commencing in October with the sailing of the *Alaskan*. A regular schedule will be published as soon as possible. This schedule will be even closer than that of the European-Pacific Line, now operated on this coast by Williams, Dimond & Company.

"Beginning in September, there will be a weekly service from New York to the Pacific Coast by steamers of the American-Hawaiian Steamship Company. This service will include a fortnightly service from Philadelphia to the Pacific Coast, and the fortnightly sailings from Boston to the Pacific Coast will be continued.

"A regular service between all Pacific Coast ports of the United States and ports of the Atlantic seaboard of the United States and also with European ports will be maintained. Westbound from New York there will be a sailing every week to the Pacific Coast, every 2 weeks from Boston, and every 2 weeks from Philadelphia. Eastbound from the Pacific Coast, there will be a sailing every 2 weeks to Atlantic ports and to Europe.

"The American-Hawaiian Steamship Company has 16 large freighters which it has ready to put on this service. In addition, it has placed orders for the two largest American-built motor ships now under construction at the Merchant's Shipbuilding Company, in Bristol, Pa. These will be of 10,500 deadweight ton capacity, and will be powered with Burmeister-Wain Diesel engines."

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**Three Men in 28-foot Yawl Arrive from New York.**

The *Hippocampus*, a 28-foot auxiliary yawl which reached the Canal recently from New York, by way of Cuban and Jamaican ports, will lie in Gatun Lake until next March or April, when her owner will set out for west coast ports as far as Puget Sound. Her owner and master is Mr. Alfred F. Loomis, associate editor of a motor-boating magazine, who has been voyaging with two companions, Messrs. Paul Squib and John A. Chambers, for the pleasure of the thing and to obtain material for stories. They were 3½ months coming from New York, and as winter would be on them before they could complete their voyage at the leisurely rate they had planned, the yawl will be tied up at the Canal through the winter.

The *Hippocampus* travels ordinarily under sail, but is equipped with a 10-horsepower gasoline motor, with which she can make about 5 knots in calm weather.

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**Cable Line to San Juan, Porto Rico.**

The All-America Cables, Inc., announces the opening, on August 29, of their new cable from Guantanamo Bay, Cuba, to San Juan and Ponce, Porto Rico. This gives direct cable communication to San Juan and Ponce from the Canal Zone and the United States, as the company's line between Cristobal and New York touches at Guantanamo.

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**Cargo of Guano from Ocean Island.**

The steamship *Hokkai Maru*, passing through the Canal on August 2, carried a full cargo of guano, amounting to 5,450 tons, consigned to an English port.

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, July, 1921.

| From—                                          | NORTH AMERICA.             |                            |             |                          |              |                  |                          |                          |                |          | EUROPE. |          |          |        |        |         |         |                      |                |                               | Grand total. | Per cent of total cargo. |       |
|------------------------------------------------|----------------------------|----------------------------|-------------|--------------------------|--------------|------------------|--------------------------|--------------------------|----------------|----------|---------|----------|----------|--------|--------|---------|---------|----------------------|----------------|-------------------------------|--------------|--------------------------|-------|
|                                                | UNITED STATES.             |                            |             |                          |              | NORTH AMERICA.   |                          |                          |                |          | EUROPE. |          |          |        |        |         |         |                      |                |                               |              |                          |       |
|                                                | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports. | Total, United<br>States. | West Indies. | Cristobal, C. Z. | East coast of<br>Canada. | Total, North<br>America. | British Isles. | Denmark. | France. | Germany. | Holland. | Italy. | Spain. | Sweden. | Danzig. | Europe. <sup>2</sup> | Total, Europe. | East coast,<br>South America. |              |                          |       |
| <b>SOUTH AMERICA:</b>                          |                            |                            |             |                          |              |                  |                          |                          |                |          |         |          |          |        |        |         |         |                      |                |                               |              |                          |       |
| Chile.....                                     | 16,072                     | 3,407                      | 7,523       | 27,002                   |              | 172              |                          | 27,174                   | 10,499         |          | 2,865   | 11       |          | 1,900  | 13     |         |         | 14,347               | 29,635         | 11                            | 56,809       | 42.6                     |       |
| Colombia.....                                  | 1,819                      |                            |             | 1,819                    |              | 1,569            |                          | 3,388                    |                |          |         |          |          |        |        |         |         |                      |                | 14                            | 3,402        | 0.7                      |       |
| Ecuador.....                                   | 1,848                      |                            |             | 1,848                    |              | 1,722            |                          | 3,570                    |                |          |         |          |          |        |        |         |         |                      | 390            | 403                           | 3,973        | 0.9                      |       |
| Peru.....                                      | 1,310                      |                            |             | 1,310                    |              | 3,751            |                          | 5,061                    | 4,364          |          | 70      | 6        |          | 191    | 100    |         |         | 483                  | 5,214          | 483                           | 10,275       | 2.3                      |       |
| West coast of South America <sup>2</sup> ..... | 1,331                      |                            |             | 1,331                    |              | 953              |                          | 2,284                    |                |          |         |          |          | 443    |        |         |         | 316                  | 758            |                               | 3,043        | 0.7                      |       |
| Total, South America.....                      | 22,380                     | 3,407                      | 7,523       | 33,310                   |              | 8,167            |                          | 41,477                   | 14,863         |          | 2,935   | 19       |          | 2,524  | 124    |         |         | 15,535               | 36,011         | 11                            | 77,502       | 17.2                     |       |
| <b>NORTH AMERICA:</b>                          |                            |                            |             |                          |              |                  |                          |                          |                |          |         |          |          |        |        |         |         |                      |                |                               |              |                          |       |
| West coast of United States.....               | 48,030                     | 8,994                      | 658         | 57,682                   | 3,336        | 123              |                          | 61,141                   | 82,886         | 7,464    |         | 7,635    | 16,091   | 7,320  |        | 1,063   | 5,199   | 33,654               | 161,312        |                               | 194,222      | 49.5                     |       |
| West coast of Canada.....                      | 2,086                      |                            |             | 2,086                    |              |                  | 3,246                    | 5,332                    | 1,423          |          | 370     |          |          |        |        |         |         | 1,434                | 3,227          |                               | 8,559        | 1.9                      |       |
| West coast of Central America.....             | 365                        | 400                        | 82          | 847                      | 204          | 2,877            |                          | 3,928                    |                |          |         | 13       |          |        | 10     | 428     |         | 543                  | 994            |                               | 4,922        | 1.1                      |       |
| Total, North America.....                      | 50,481                     | 9,394                      | 740         | 60,615                   | 3,540        | 3,000            | 3,246                    | 70,401                   | 84,309         | 7,464    | 370     | 7,648    | 16,091   | 7,320  | 10,149 | 1,491   | 5,199   | 35,631               | 165,533        |                               | 194,236      | 128                      | 52.5  |
| <b>ASIA:</b>                                   |                            |                            |             |                          |              |                  |                          |                          |                |          |         |          |          |        |        |         |         |                      |                |                               |              |                          |       |
| China.....                                     | 10,210                     |                            |             | 10,210                   |              |                  |                          | 10,210                   |                | 41       |         |          |          |        |        |         |         |                      | 41             |                               |              | 10,251                   | 2.3   |
| Japan.....                                     | 2,342                      |                            |             | 2,342                    |              |                  |                          | 2,342                    |                |          |         | 3        |          |        |        |         |         |                      | 3              |                               |              | 2,345                    | 0.5   |
| Philippine Islands.....                        | 23,986                     |                            |             | 23,986                   |              |                  |                          | 23,986                   |                |          |         |          |          |        |        |         |         |                      |                |                               |              | 23,986                   | 5.3   |
| Far East <sup>1</sup> .....                    | 575                        |                            |             | 575                      |              |                  |                          | 575                      | 2,350          |          |         |          |          |        |        |         |         |                      | 2,350          |                               |              | 2,925                    | 0.6   |
| Malay Peninsula.....                           | 353                        |                            |             | 353                      |              |                  |                          | 353                      |                |          |         |          |          |        |        |         |         |                      |                |                               |              | 353                      | 0.1   |
| Total, Asia.....                               | 37,466                     |                            |             | 37,466                   |              |                  |                          | 37,466                   | 2,350          | 41       |         | 3        |          |        |        |         |         |                      | 2,394          |                               |              | 39,860                   | 8.8   |
| <b>AUSTRALASIA:</b>                            |                            |                            |             |                          |              |                  |                          |                          |                |          |         |          |          |        |        |         |         |                      |                |                               |              |                          |       |
| Australia.....                                 |                            |                            |             |                          |              |                  |                          |                          | 12,730         |          |         |          |          |        |        |         |         |                      |                |                               |              | 12,730                   | 2.8   |
| New Zealand.....                               | 40                         |                            |             | 40                       |              |                  |                          | 40                       | 43,477         |          |         |          |          |        |        |         |         |                      | 43,477         |                               |              | 43,517                   | 9.6   |
| Australasia <sup>2</sup> .....                 |                            |                            |             |                          |              |                  |                          |                          | 7,500          |          |         |          |          |        |        |         |         |                      | 7,500          |                               |              | 7,500                    | 1.7   |
| Total, Australasia.....                        | 40                         |                            |             | 40                       |              |                  |                          |                          | 63,707         |          |         |          |          |        |        |         |         |                      | 63,707         |                               |              | 63,747                   | 14.1  |
| <b>Hawaii</b> .....                            | 20,305                     |                            |             | 20,305                   |              |                  |                          |                          | 33,305         |          |         |          |          |        |        |         |         |                      |                |                               |              | 33,305                   | 7.4   |
| Grand totals.....                              | 130,672                    | 12,801                     | 21,263      | 164,736                  | 3,540        | 11,167           | 3,246                    | 182,689                  | 165,229        | 7,505    | 3,305   | 7,670    | 16,091   | 9,854  | 134    | 1,491   | 5,199   | 51,167               | 237,645        |                               | 208,450      | 542                      | 100.0 |
| Per cent of total cargo, July, 1921.....       | 29.0                       | 2.8                        | 4.7         | 36.5                     | 0.8          | 2.5              | 0.7                      | 40.9                     | 36.7           | 1.7      | 0.7     | 1.7      | 3.5      | 2.2    | 0.1    | 0.3     | 1.1     | 11.4                 | 59.4           | 0.1                           | 100.0        |                          |       |
| Per cent of total cargo, June, 1921.....       | 29.1                       | 1.4                        | 3.6         | 44.1                     | 1.7          | 4.1              |                          | 49.9                     | 30.1           | 0.6      | 0.4     | 4.2      |          | 5.2    | 0.1    | 0.4     |         | 6.9                  | 49.9           | 0.2                           |              |                          |       |

<sup>1</sup> General cargo not routed so as to allow segregation between definite ports.<sup>2</sup> Figures represent tons of 2,240 pounds.

Distribution of Cargo Passing Through The Panama Canal from the Atlantic to the Pacific, July, 1921.\*

| From—                                    | SOUTH AMERICA. |           |          |       |                                            | NORTH AMERICA.          |                               |         |                                 |              |                        |                          | ASIA.  |        |                        |              | AUSTRALASIA. |              |                           |                                     | Grand totals. | Per cent of total cargo. |         |
|------------------------------------------|----------------|-----------|----------|-------|--------------------------------------------|-------------------------|-------------------------------|---------|---------------------------------|--------------|------------------------|--------------------------|--------|--------|------------------------|--------------|--------------|--------------|---------------------------|-------------------------------------|---------------|--------------------------|---------|
|                                          | Chile.         | Colombia. | Ecuador. | Peru. | West coast.<br>South America. <sup>†</sup> | Total<br>South America. | West coast,<br>United States. | Canada. | West coast,<br>Central America. | Bahoa, C. Z. | West coast,<br>Mexico. | Total,<br>North America. | China. | Japan. | Far East. <sup>‡</sup> | Total, Asia. | Australia.   | New Zealand. | Australasia. <sup>‡</sup> | Total,<br>Australasia. <sup>‡</sup> |               |                          | Hawaii. |
|                                          |                |           |          |       |                                            |                         |                               |         |                                 |              |                        |                          |        |        |                        |              |              |              |                           |                                     |               |                          |         |
| NORTH AMERICA:                           |                |           |          |       |                                            |                         |                               |         |                                 |              |                        |                          |        |        |                        |              |              |              |                           |                                     |               |                          |         |
| North Atlantic ports.....                | 802            | 23        | 67       | 4,142 | 2,595                                      | 7,629                   | 48,045                        | 265     | 1,220                           | 950          | ...                    | 50,480                   | 629    | 11,381 | 10,523                 | 22,533       | 6,016        | 10,224       | 7,828                     | 24,068                              | 5,663         | 110,373                  | 42.7    |
| South Atlantic ports.....                |                |           |          |       | 1,105                                      | 1,593                   | 13,300                        |         |                                 |              | 1,105                  | 213                      | 2,092  | 7,723  | 10,938                 |              | 4,069        |              | 4,069                     |                                     | 15,232        | 5.9                      |         |
| Gulf ports.....                          |                |           |          |       | 1,593                                      | 1,593                   | 13,300                        |         |                                 |              | 13,300                 | 7,730                    | 15,803 | 14,695 | 38,228                 |              |              |              |                           |                                     | 53,121        | 20.5                     |         |
| Total, United States.....                | 802            | 23        | 67       | 4,142 | 4,188                                      | 9,222                   | 62,450                        | 265     | 1,220                           | 950          | ...                    | 64,885                   | 8,572  | 29,276 | 32,941                 | 70,789       | 6,016        | 14,323       | 7,828                     | 28,167                              | 5,663         | 178,726                  | 69.1    |
| East coast of Mexico.....                | 14,069         |           |          |       |                                            | 14,069                  | 8,000                         |         | 4,545                           |              | 10                     | 12,555                   |        |        |                        |              |              |              |                           |                                     |               | 26,624                   | 10.3    |
| Atlantic terminus, Panama Canal.....     | 283            | 43        | 183      | 44    | 1,029                                      | 1,582                   | 1,400                         |         | 2,550                           |              | 883                    | 4,833                    |        |        |                        |              | 51           | 215          | 130                       | 396                                 |               | 6,415                    | 2.5     |
| Canada.....                              |                |           |          |       |                                            |                         |                               |         |                                 |              |                        |                          |        |        |                        |              |              |              |                           |                                     |               | 396                      | 0.1     |
| Total, North America.....                | 15,154         | 66        | 250      | 4,186 | 5,217                                      | 24,873                  | 71,850                        | 265     | 8,315                           | 950          | 893                    | 82,273                   | 8,572  | 29,276 | 32,941                 | 70,789       | 6,067        | 14,538       | 7,958                     | 28,563                              | 5,663         | 212,161                  | 82.0    |
| EUROPE:                                  |                |           |          |       |                                            |                         |                               |         |                                 |              |                        |                          |        |        |                        |              |              |              |                           |                                     |               |                          |         |
| Belgium.....                             |                |           |          |       |                                            |                         | 11,970                        |         |                                 |              |                        | 11,970                   |        |        |                        |              |              |              |                           |                                     |               | 11,970                   | 4.6     |
| British Isles.....                       | 2,817          |           |          |       |                                            | 2,800                   | 4,538                         | 707     |                                 |              |                        | 5,245                    |        |        |                        |              |              | 10,846       |                           |                                     |               | 21,779                   | 8.5     |
| Denmark.....                             |                |           |          |       |                                            |                         | 2,961                         |         |                                 |              |                        | 2,961                    |        |        |                        |              |              |              |                           |                                     |               | 2,961                    | 1.2     |
| France.....                              | 394            |           | 6        | 15    | 192                                        | 607                     |                               |         |                                 |              |                        | 369                      |        |        |                        |              |              |              |                           |                                     |               | 607                      | 0.2     |
| Germany.....                             |                |           |          |       | 3,220                                      | 3,220                   | 369                           |         |                                 |              |                        | 1,591                    |        |        |                        |              |              |              |                           |                                     |               | 3,589                    | 1.4     |
| Holland.....                             |                |           |          |       |                                            |                         |                               |         |                                 |              |                        |                          |        |        |                        |              |              |              |                           |                                     |               | 1,591                    | 0.6     |
| Italy.....                               |                |           |          |       | 8                                          | 692                     | 700                           | 125     |                                 |              |                        | 1,591                    |        |        |                        |              |              |              |                           |                                     |               | 1,591                    | 0.6     |
| Spain.....                               |                |           |          |       | 20                                         |                         | 125                           |         |                                 |              |                        | 125                      |        |        |                        |              |              |              |                           |                                     |               | 125                      | 0.3     |
| Sweden.....                              |                |           |          |       | 46                                         | 80                      | 126                           | 47      |                                 |              |                        | 47                       |        |        |                        |              |              |              |                           |                                     |               | 173                      | 0.1     |
| Europe <sup>‡</sup> .....                |                |           |          |       | 75                                         | 1,690                   | 1,840                         | 130     |                                 |              |                        | 130                      |        |        |                        |              |              |              |                           |                                     |               | 1,970                    | 0.8     |
| Total, Europe.....                       | 3,211          |           | 127      | 269   | 8,594                                      | 12,201                  | 20,265                        | 2,298   |                                 |              |                        | 22,563                   |        |        |                        |              |              | 10,846       |                           |                                     |               | 45,610                   | 17.8    |
| East coast of South America.....         |                | 669       |          |       |                                            | 669                     |                               |         |                                 |              |                        |                          |        |        |                        |              |              |              |                           |                                     |               | 669                      | 0.2     |
| Grand totals.....                        | 18,365         | 735       | 377      | 4,455 | 13,811                                     | 37,743                  | 92,115                        | 2,563   | 8,315                           | 950          | 893                    | 104,886                  | 8,572  | 29,276 | 32,941                 | 70,789       | 6,067        | 25,384       | 7,958                     | 39,409                              | 5,663         | 258,440                  | 100.0   |
| Per cent of total cargo, July, 1921..... | 7.2            | 0.3       | 0.1      | 1.7   | 5.3                                        | 14.6                    | 35.6                          | 1.0     | 3.2                             | 0.4          | 0.3                    | 40.5                     | 3.3    | 11.3   | 12.8                   | 27.4         | 2.4          | 9.8          | 3.1                       | 15.3                                | 2.2           | 100.0                    |         |
| Per cent of total cargo, June, 1921..... | 11.7           | 0.4       | 0.1      | 2.0   | 5.5                                        | 19.7                    | 30.3                          | 8.3     | 2.0                             | 2.0          | 1.8                    | 44.4                     | 8.1    | 10.6   | 6.4                    | 25.3         | 1.6          | 3.9          | 5.1                       | 10.6                                |               |                          |         |

\* Figures represent tons of 2,240 pounds. † General cargo not routed so as to allow segregation among various ports. ‡ 5,742 tons railroad material from Gulf ports to Alaska.

# MOVEMENTS OF OCEAN VESSELS. Week ending at midnight, August 27, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.               | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                             | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.             |       | Panama Canal tonnage. |
|---------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-----------------------------------|---------|-------|-------------------|---------------|----------------|--------------------|-------|-----------------------|
|                     | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                   |         |       |                   |               |                | Nature.            | Tons. |                       |
| Florence Luckenbach | 21               | 7 18  | 21             | 11 55 | 21                 | 19 32 | 21               | 20 40 | American     | Luckenbach Line                   | 401.0   | 52.0  | 14.0              | Norfolk       | San Francisco  | Ballast            |       | 6,002 4,638           |
| Dolphin             | 22               | 15 44 | 23             | 6 10  | 23                 | 12 47 | 23               | 17 00 | American     | United States Navy                | 256.0   | 35.0  | 16.6              | Bluefields    | Balboa         |                    |       |                       |
| Lucerne             | 22               | 19 44 | 23             | 7 11  | 23                 | 15 53 | 23               | 17 00 | British      | Bank Line                         | 412.0   | 55.0  | 27.0              | New York      | Yokohama       | Oil and general    | 8,478 | 6,899 4,863           |
| Hanley              | 23               | 3 10  | 23             | 8 16  | 23                 | 16 35 | 23               | 19 35 | American     | MacCormick & McPherson (S. B.)    | 440.0   | 56.0  | 17.0              | Gibraltar     | San Francisco  | Ballast            |       | 8,301 6,019           |
| Manavi              | 18               | 18 15 | 23             | 10 58 | 23                 | 18 39 | 23               | 20 46 | British      | Pacific Steam Navigation Co.      | 216.0   | 35.0  | 11.0              | Cristobal     | Guayaquil      | General            | 72    | 1,337 884             |
| City of Pekin       | 23               | 11 24 | 23             | 11 50 | 23                 | 20 30 | 23               | 21 35 | British      | Ellerman Line, Ltd.               | 443.0   | 59.0  | 27.6              | New York      | Yokohama       | General            | 7,464 | 9,048 6,846           |
| Santa Rosa          | 23               | 6 50  | 23             | 11 20 | 23                 | 20 40 | 25               | 12 19 | Costa Rican  | Costa Rican Government            | 70.0    | 12.5  | 6.0               | Port Limon    | Punta Arenas   |                    |       |                       |
| Steel Exporter.     | 23               | 16 20 | 24             | 6 20  | 24                 | 14 47 | 24               | 15 55 | American     | United States Steel Products Co.  | 424.0   | 56.0  | 24.3              | New York      | Seattle        | Steel products.    | 6,484 | 7,539 5,448           |
| Vancouver           | 23               | 18 15 | 24             | 7 32  | 24                 | 15 57 | 24               | 16 58 | British      | Vancouver Steamship, Ltd.         | 376.0   | 50.0  | 16.3              | Norfolk       | Astoria        | Ballast            |       | 5,028 3,600           |
| France Maru.        | 23               | 14 37 | 24             | 8 00  | 24                 | 16 56 | 24               | 18 00 | Japanese.    | Kolushiki Kabushiki Kaisha        | 381.0   | 51.0  | 22.8              | Galveston     | Yokohama       | General            | 5,200 | 5,919 4,429           |
| Wren                | 23               | 11 35 | 24             | 8 35  | 24                 | 17 06 | 24               | 18 03 | British      | Ornis Steamship Line              | 420.0   | 54.0  | 16.0              | New Castle    | Portland, Ore. | Ballast            | 6,351 | 4,500                 |
| Bakersfield.        | 24               | 6 00  | 24             | 9 35  | 24                 | 18 27 | 25               | 0 30  | American     | Williams, Diamond Co. (S. B.)     | 410.0   | 54.0  | 18.0              | Fowey, Eng.   | Los Angeles    | Oil and general    | 3,228 | 6,503 4,924           |
| Brush               | 24               | 8 10  | 24             | 11 15 | 24                 | 19 26 | 24               | 21 00 | American     | N. Atl. & West. S. S. Co. (S. B.) | 390.0   | 54.0  | 18.0              | Philadelphia  | Seattle        | General            | 2,600 | 6,161 4,433           |
| Rubens              | 24               | 10 45 | 24             | 13 15 | 24                 | 20 25 | 24               | 21 45 | British      | Bolton Steamship Co.              | 360.0   | 50.0  | 15.0              | London        | Portland       | Ballast            | 3,300 | 7,150 4,913           |
| Minnesota.          | 24               | 13 05 | 24             | 13 15 | 24                 | 20 25 | 24               | 21 45 | American     | American-Hawaiian Line            | 407.0   | 53.0  | 23.0              | New York      | San Pedro      | General            | 3,977 | 6,067 4,230           |
| Kina                | 24               | 21 07 | 25             | 6 45  | 25                 | 14 57 | 25               | 16 25 | Danish       | Orient Steamship Line             | 385.0   | 53.0  | 18.0              | Buenos Aires. | Kobe           | Cotton, steel, etc | 7,000 | 8,199 6,250           |
| Mexico Maru.        | 25               | 3 18  | 25             | 7 35  | 25                 | 15 55 | 25               | 17 00 | Japanese.    | Osaka Shosen Kaisha               | 400.0   | 52.0  | 24.6              | Mobile        | Seattle        | General            | 3,977 | 6,067 4,230           |
| Liberator           | 25               | 20 54 | 26             | 6 21  | 26                 | 14 52 | 26               | 15 47 | American     | Atl. Gulf and Pacific S. S. Co.   | 410.0   | 55.0  | 25.6              | Cristobal     | Buenaventura   | General            | 7,000 | 8,199 6,250           |
| Laura C. Hall.      | 24               | 22 02 | 26             | 6 21  | 26                 | 14 45 | 27               | 8 07  | British      | Pacific Metals Corporation        | 91.0    | 25.0  | 4.0               | Cristobal     | Buenaventura   | General            | 271   | 4,456 2,405           |
| Ugvald              | 19               | 21 13 | 26             | 7 45  | 26                 | 15 55 | 26               | 17 43 | Peruvian     | Peruvian Steamship Line           | 374.0   | 46.0  | 18.2              | Cristobal     | Callao         | General            | 271   | 4,456 2,405           |
| Croskill            | 26               | 18 50 | 27             | 6 35  | 27                 | 14 58 | 27               | 15 00 | British      | McGrath, Blackwood & Laurie       | 335.0   | 52.0  | 14.7              | New Castle    | San Francisco  | Ballast            | 5,140 | 3,510                 |
| Cedric.             | 27               | 12 40 | 27             | 7 15  | 27                 | 16 04 | 27               | 17 20 | Norwegian.   | Det. Schmeiser Rederi             | 338.0   | 48.0  | 18.0              | Hamburg       | Guayaquil      | General            | 1,774 | 4,113 3,071           |
| Denver.             | 27               | 7 13  | 27             | 7 30  | 27                 | 16 09 |                  |       | American     | United States Navy                | 292.0   | 44.0  | 17.0              | Curacao       | Balboa         |                    |       |                       |
| Acaquila            | 20               | 15 20 | 27             | 9 55  | 27                 | 18 20 | 27               | 20 40 | British      | Pacific Steam Navigation Co.      | 215.0   | 34.0  | 14.7              | Cristobal     | Champerico     | General            | 642   | 1,273 706             |

Cruiser.

Laurel.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

Gunboat.

| Ship.          | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                          | Length. | Beam. | Salt water draft. | From—       | For—          | Cargo.  |       | Panama Canal tonnage. |       |
|----------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|--------------------------------|---------|-------|-------------------|-------------|---------------|---------|-------|-----------------------|-------|
|                | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                |         |       |                   |             |               | Nature. | Tons. |                       |       |
| Orestes        | 20               | 11 00 | 21             | 7 04  | 21                 | 15 05 | 22               | 12 35 | Dutch        | Royal Netherlands S. S. Co.    | 340.0   | 48.0  | 19.0              | Bahia       | London        | General | 3,884 | 5,895                 | 3,982 |
| Cherry Branch  | 21               | 1 00  | 21             | 8 00  | 21                 | 15 50 | 21               | 20 22 | British      | Nautilus Steamship Co.         | 400.0   | 51.9  | 23.0              | Antofagasta | Liverpool     | Wheat   | 6,577 | 7,025                 | 5,055 |
| Baltimore Maru | 22               | 1 30  | 22             | 10 40 | 22                 | 18 55 | 23               | 17 55 | Japanese     | Kobushiki Kaisha Kaw. Zosenjo. | 405.0   | 53.0  | 28.0              | Portland    | Cork          | General | 4,250 | 5,776                 | 4,081 |
| Santa Ana      | 22               | 1 00  | 22             | 8 22  | 22                 | 15 43 | 23               | 18 55 | American     | W. R. Grace & Co.              | 390.2   | 31.0  | 36.0              | Talcahuano  | New York      | General | 674   | 1,187                 | 622   |
| Himalaya       | 22               | 10 30 | 22             | 12 02 | 22                 | 23 40 | 25               | 12 05 | British      | Pacific Steam Navigation Co.   | 230.0   | 34.0  | 29.0              | Tumaco      | Pro. Colombia | General |       |                       |       |
| Jippocampus    | 20               | 16 25 | 23             | 6 55  | 23                 | 14 30 |                  |       | American     | Alfred F. Loons                | 28.0    | 9.0   | 5.0               | Balboa      | Gatun         |         |       |                       |       |
| Sacota         | 19               | 16 08 | 23             | 7 20  | 23                 | 15 10 |                  |       | American     | United States Navy             | 149.4   | 30.0  |                   | Balboa      | Cristobal     |         |       |                       |       |

\* Yacht.  
† Tug.  
‡ Corn, cocoa, and ivory nuts.

Yacht.

Corn, cocoa, and ivory nuts.



|                    |    |    |    |    |    |    |    |    |           |     |    |           |                                   |                                |     |    |    |                |              |                 |          |         |       |       |
|--------------------|----|----|----|----|----|----|----|----|-----------|-----|----|-----------|-----------------------------------|--------------------------------|-----|----|----|----------------|--------------|-----------------|----------|---------|-------|-------|
| Drowaiti           | 14 | 45 | 23 | 7  | 25 | 23 | 15 | 10 | 23        | 15  | 10 | British   | Union S. S. Co of New Zealand..   | 408                            | 6   | 53 | 7  | 19             | 6            | San Francisco.  | Tampico. | Ballast | 7 073 | 5 085 |
| Robbin Adair       | 22 | 19 | 20 | 8  | 12 | 23 | 16 | 00 | American  | 424 | 8  | 55        | 2                                 | Seas Shipping Co., Inc         | 425 | 53 | 23 | 2              | Seattle.     | Roston.         | General  | 6 206   | 5 618 |       |
| Serena             | 23 | 1  | 20 | 9  | 13 | 24 | 6  | 05 | Japanese. | 425 | 0  | 39        | 0                                 | Teikoku Kisen Kabushiki Kaisha | 390 | 47 | 3  | Portland       | Norfolk      | Wheat           | 7 164    | 5 415   |       |       |
| Sorata             | 23 | 20 | 20 | 7  | 19 | 24 | 16 | 20 | British   | 390 | 0  | 47        | 3                                 | Pacific Steam Navigation Co    | 390 | 47 | 3  | Port Stanley   | London       | Wool, barley    | 7 202    | 7 382   |       |       |
| Honolulu           | 24 | 1  | 30 | 24 | 8  | 23 | 16 | 50 | 24        | 20  | 35 | American  | Moore & McCormack (S. B.)         | 390                            | 0   | 51 | 0  | Everett        | New York     | (*)             | 7 000    | 6 190   |       |       |
| Margaret           | 24 | 1  | 30 | 24 | 9  | 17 | 24 | 21 | 45        | 24  | 35 | Panaman   | Pedro Deban                       | 29                             | 6   | 7  | 0  | Balboa         | Cristobal    | General         | 6 830    | 6 573   |       |       |
| West Kaula         | 24 | 7  | 30 | 24 | 9  | 21 | 18 | 07 | 25        | 12  | 12 | American  | Williams' Dimond Co. (S. B.)      | 410                            | 5   | 54 | 3  | Seattle        | Antwerp      | (*)             | 6 830    | 6 573   |       |       |
| Laurea C. Hall     | 24 | 8  | 00 | 24 | 11 | 26 | 24 | 22 | 26        | 6   | 21 | British   | Pacific Metals Corporation.       | 81                             | 0   | 25 | 9  | Buenaventura.  | Cristobal    | Copper bars.    | 55       | 133     |       |       |
| Sherman            | 24 | 13 | 10 | 24 | 13 | 35 | 24 | 22 | 15        | 24  | 33 | American  | Sherman Steamship Co.             | 400                            | 3   | 45 | 3  | San Antonio    | New York     |                 | 4 028    | 5 037   |       |       |
| Gen. Wm. M. Graham | 9  | 17 | 26 | 25 | 9  | 55 | 25 | 15 | 52        |     |    | American  | United States Army                | 156                            | 0   | 32 | 0  | Balboa.        | Cristobal.   |                 | 3 058    | 12 267  |       |       |
| Orcoma             | 25 | 11 | 20 | 25 | 12 | 53 | 25 | 20 | 25        | 26  | 12 | 01        | Pacific Steam Navigation Co       | 511                            | 6   | 62 | 0  | Colonel        | Liverpool    | General         | 7 589    | 7 173   |       |       |
| Indev              | 25 | 12 | 00 | 25 | 12 | 47 | 25 | 21 | 25        | 23  | 00 | British   | Orient Steamship Co.              | 398                            | 7   | 53 | 2  | San Francisco. | New York     | General         | 8 630    | 7 815   |       |       |
| Toyama Maru.       | 23 | 14 | 45 | 26 | 7  | 09 | 26 | 15 | 05        | 26  | 17 | 25        | Nippon Yusen Kaisha               | 476                            | 4   | 58 | 23 | Iloilo.        | Baltimore.   | General         | 3 592    | 5 146   |       |       |
| Kape Henry.        | 23 | 0  | 30 | 26 | 8  | 13 | 26 | 15 | 05        | 26  | 19 | 15        | At. Gulf & Pac. S. S. Co. (S. B.) | 376                            | 4   | 52 | 3  | Beltingham     | Rotterdam.   | General         | 3 525    | 5 145   |       |       |
| Kinderkil.         | 26 | 6  | 19 | 26 | 10 | 24 | 18 | 05 | 27        | 22  | 10 | Dutch     | Holland-American Line.            | 470                            | 58  | 25 | 26 | San Francisco. | London.      | General         | 8 355    | 5 145   |       |       |
| Keeleing.          | 26 | 7  | 15 | 26 | 8  | 17 | 26 | 18 | 05        | 27  | 22 | 10        | Ellerman and Bucknall S. S. Co    | 400                            | 4   | 52 | 25 | Saw Island     | United King. | Phosphate       | 3 660    | 6 227   |       |       |
| Hague Maru.        | 26 | 10 | 24 | 26 | 11 | 27 | 26 | 13 | 20        | 27  | 12 | Japanese. | Osaka Shosen Kaisha               | 407                            | 2   | 50 | 8  | Singapore.     | New York     | General         | 3 587    | 5 297   |       |       |
| Roki Maru          | 27 | 1  | 45 | 27 | 7  | 24 | 27 | 13 | 23        | 27  | 17 | 00        | East Asiatic Steamship Co.        | 410                            | 5   | 52 | 28 | Seattle.       | Copenhagen.  | Barley, general | 8 355    | 5 812   |       |       |
| Balboa             | 27 | 10 | 15 | 27 | 11 | 15 | 27 | 18 | 15        | 27  | 18 | 15        | Hashimoto Kisen Kab. Kaisha       | 388                            | 0   | 53 | 2  | San Francisco  | Immingham    | Barley, general | 6 355    | 5 812   |       |       |
| Canadian Planter   | 27 | 10 | 50 | 27 | 12 | 50 | 27 | 20 | 30        | 27  | 22 | 55        | Colombian Maritime Co.            | 190                            | 0   | 29 | 1  | Buenaventura.  | Cristobal    | Coffee, hides   | 601      | 741     |       |       |
| Nena               | 27 | 10 | 50 | 27 | 12 | 50 | 27 | 20 | 30        | 27  | 22 | 55        | Canadian Government.              | 400                            | 3   | 52 | 4  | Lytleton.      | New York     | General         | 1 050    | 5 842   |       |       |
|                    |    |    |    |    |    |    |    |    |           |     |    |           | F. C. Gibson                      |                                |     |    |    | Balboa.        | Gatun.       |                 |          | 4 092   |       |       |

7 Motor schooner.

3 Mine planter.

Motor ship.

to Launch, towing say two.

1900-1901

sis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

\*ARRIVALS.

\*DEPARTURES.

\* Other than ships passing through the Canal.

| Date.           | Vessel.              | Line.                            | From—                  | Date.        | Vessel.        | Line.                           | To—                             |
|-----------------|----------------------|----------------------------------|------------------------|--------------|----------------|---------------------------------|---------------------------------|
| Aug. 21.....    | Metapan              | United Fruit Co.                 | New Orleans.           | Aug. 21..... | Metapan        | United Fruit Co.                | Bocas del Toro.                 |
| Aug. 21.....    | Hampton Roads.       | Walker & Daly (S. B.)            | Mexico.                | Aug. 21..... | Caribbean      | Panama Railroad Cattle Industry | Puerto Colombia.                |
| Aug. 22.....    | Heredia              | United Fruit Co.                 | New Orleans.           | Aug. 23..... | Columbia       | N. O. and S. A. S. Line         | New Orleans.                    |
| Aug. 22.....    | Haiti                | French Line                      | St. Nazaire.           | Aug. 24..... | Calamaries     | United Fruit Co.                | New York.                       |
| Aug. 22.....    | Columbia.            | N. O. and S. A. S. Line          | Cartagena.             | Aug. 24..... | Metapan        | United Fruit Co.                | New Orleans.                    |
| Aug. 23.....    | Calamaries           | United Fruit Co.                 | New York.              | Aug. 24..... | Ovel           | United States Navy              | Hampton Roads.                  |
| Aug. 23.....    | Harold Walker        | Pan. American Pet. Co.           | New Orleans.           | Aug. 25..... | Turrialba      | United Fruit Co.                | New York via Kingston.          |
| Aug. 24.....    | Metapan              | United Fruit Co.                 | Bocas del Toro.        | Aug. 25..... | Trivives       | United Fruit Co.                | New York via Colombia.          |
| Aug. 24.....    | Twives               | United Fruit Co.                 | New York via Kingston. | Aug. 26..... | Heredin        | United Fruit Co.                | New Orleans via Bocas del Toro. |
| Aug. 24.....    | Turrialba            | United Fruit Co.                 | New York.              | Aug. 25..... | Haiti          | French Line.                    | St. Nazaire.                    |
| Aug. 25.....    | Cristobal            | Panama Railroad Steamship Line.  | Norfolk.               | Aug. 25..... | Hampton Roads. | Walker & Daly (S. B.)           | Palo Blanco, Mexico.            |
| Aug. 25.....    | Barbadian            | Leyland Line.                    | Liverpool.             | Aug. 25..... | Harold Walker  | Pan-American Petroleum Co.      | New York                        |
| Aug. 25.....    | Tweedie              | Curacao Shipping Co.             | Curacao.               | Aug. 26..... | Colon          | Panama Railroad Steamship Line. | New York via Haiti.             |
| Aug. 27.....    | Gen. G. W. Goethals. | Panama Railroad Steamship Line.  | New York via Haiti.    | Aug. 27..... | Barbadian      | Harrison Line                   | New Orleans.                    |
| Aug. 27.....    | Caribbean            | Panama Railroad Cattle Industry. | Cartagena.             |              |                |                                 |                                 |
| PORT OF BALBOA. |                      |                                  |                        |              |                |                                 |                                 |
| Aug. 23.....    | Seiyo Maru           | Toyo Kisen Kaisha                | Valparaiso.            | Aug. 23..... | Seiyo Maru     | Toyo Kisen Kaisha               | Hongkong.                       |



### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the two weeks ended August 27:

Steamships *Depere*, electric-weld broken portion of crosshead nut wrench and reinforce wrench by building up on both sides of handle with electric-welding; *Rakuyo Maru*, manufacture 40 white metal rings for compressor gland of freezer; tug *Empire*, fit one swivel and repair worm gear of towing machine; straighten and overhaul 2 lifeboat davits, and straighten railing aft of lifeboat; steamship *Solana*, dock, stage, and clean and paint bottom; repair hull where damaged; repair sea valves; clean strainers; examine pintles and gudgeons; straighten 4 propeller blades; repack stern gland; repair piston rod stuffing box; repair broken dynamo engine cylinder head; manufacture miscellaneous parts for engineer's department; calk entire boat deck, and renew stern zincs; tug *Gorgona*, furnish air; repair condenser; connect up bilge and repair brine pump; inspect and repair furnaces; launch *Santa Rita*, renew sternpost and refit stern bearing support casting; repair keel and refit skeg casting; renew after-end of shoe; U. S. S. *Dolphin*, dock, stage, and clean and paint bottom; overhaul sea valves and renew zincs; steamship *Cape Henry*, renew burned ceiling in athwartship coal bunker and clean out bilges; paint tank top; barge *No. 13*, dock, stage, and clean and paint bottom; calk tank seams.

#### PREVIOUSLY REPORTED.

Steamship *Gen. George W. Getty*, miscellaneous engineer's department and hull repairs; tug *Coco Solo*, install new engine; mine planter *Graham*, docking and miscellaneous repairs; launch *P-1*, rebuilding of hull; dredge *Paraiso*, docking and hull repairs; launch *Pacific*, general repairs to hull; steamship *Panama*, reboiling and general overhaul to machinery and hull; tug *Empire*, repair towing machine, lifeboat davits and railing.

The following vessels were at the Cristobal shops for repairs during the two weeks ended August 29:

Steamships *Colon*, miscellaneous repairs and painting to engine, deck and steward departments; *West Isleta*, manufactured, fitted and installed piston rod, complete for main air pump, drilled holes at ends of cracks in bottom of pump cylinder and fitted and installed copper patches over same; manufactured 9 sets of pump valves as sample; manufactured 2 piston rings for H. P. cylinder; U. S. S. *Owl*, repaired pipe for cooling water to distiller, repaired coil for feed water heater, manufactured 2 valve stems for main circulating engine, manufactured 1 valve stem and 1 valve rod for main air pump, trued up crosshead pins, main air pump, etc.; claret *No. 7*, docked and undocked, cleaned and painted bottom, ground in sea valves, renewed bottom uptake; manufactured 2 ash pit doors, repaired whistle valve, patched hull, repaired pipes in boilers; steamship *Killerig*, docked and undocked, cleaned and painted, renewed zincs around stern; barge *No. 2*, docked and undocked, cleaned and painted bottom, repaired hull; steamships *Woron*, *Ucayali*, *St. Andre*, *Steel Worker*, *Tolosa*, and *South American*, minor repairs; *San Juan*, remake joint between H. P. and L. P. cylinders; grind in bottom relief valve from L. P. cylinder main engine; repair fresh water pump in galley; overhaul atmosphere exhaust valve; repair pipe, gents' toilet; repair baker's scales; renew evaporator flow line overboard; repair grease extractor, revolution counter, and cargo winch; U. S. Jr. M. P. *Nones*, get out awnings, seats, awning stanchions, jack stays, ridge poles, sockets, etc.; steamships *Romulas*, renew valves and face valve seats as directed; open H. P. cylinder for examination; *Hampton Roads*, repair valves; steamships *Balboa*, *Venezuela*, *Haiti*, *Heredia*, *Acajulla*, *Harold Walker*, bark *Golden Gate*, motor schooners *Catherine R* and *Laura C. Hall*, minor repairs.

#### PREVIOUSLY REPORTED.

U. S. S. *Eagle No. 31*, overhaul sea valves and zincs, etc.; U. S. S. *Eagle No. 4*, renew brickwork in boilers, etc.; motor ship *Satoe*, general overhauling, including dry-docking; barge *No. 117*, renew plates, etc.; U. S. S. *Forse*, miscellaneous repairs including dry-docking; barge *No. 19*, renew plates, etc.; claret *No. 7*, dock and undock, miscellaneous repairs.

#### Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending August 27, 1921.

| Name of vessel.       | Line or charterer.               | Arrived.       | Departed.      | Cargo—           |        |
|-----------------------|----------------------------------|----------------|----------------|------------------|--------|
|                       |                                  |                |                | Discharged       | Laded. |
|                       |                                  |                |                | Tons.            | Tons.  |
| Manavi.....           | Pacific Steam Navigation Co..... | .....          | August 23..... | .....            | 73     |
| Ucalyali.....         | Panama Railroad Steamship Line.. | .....          | August 26..... | .....            | 277    |
| Colon.....            | Panama Railroad Steamship Line.. | .....          | August 26..... | .....            | 2,407  |
| Acajutla.....         | Pacific Steam Navigation Co..... | August 20..... | August 27..... | ( <sup>1</sup> ) | 1      |
| Metapan.....          | United Fruit Co.....             | .....          | August 21..... | 92               | 36     |
| Sarpfos.....          | Leyland Line.....                | August 21..... | August 21..... | 34               | .....  |
| Haiti.....            | French Line.....                 | August 22..... | August 25..... | 15               | 396    |
| Jamaica.....          | Pacific Steam Navigation Co..... | August 22..... | August 25..... | 661              | .....  |
| Heredia.....          | United Fruit Co.....             | August 22..... | August 25..... | 969              | 489    |
| Columbia.....         | N. O. and S. A. S. S. Co.....    | August 23..... | August 23..... | 64               | .....  |
| Calamares.....        | United Fruit Co.....             | August 23..... | August 24..... | 322              | 349    |
| Harold Walker.....    | Huasteco Petroleum Co.....       | August 23..... | August 25..... | .....            | 9,500  |
| Metapan.....          | United Fruit Co.....             | August 24..... | August 25..... | 5                | 4      |
| Tivives.....          | United Fruit Co.....             | August 24..... | August 25..... | 162              | 327    |
| Laura C. Hall.....    | Anglo-American S. S. Co.....     | August 24..... | August 26..... | 55½              | 56     |
| Turrialba.....        | United Fruit Co.....             | August 25..... | August 25..... | 2                | 24     |
| Barbadian.....        | Leyland Line.....                | August 25..... | August 26..... | 301              | 168½   |
| Hague Maru.....       | Osaki Steamship Co.....          | August 26..... | August 26..... | 287              | .....  |
| Point Bonita.....     | Pacific Mail Steamship Co.....   | August 27..... | August 28..... | 208              | 6      |
| Gen. G. W. Goethals.. | Panama Railroad Steamship Line.. | August 27..... | .....          | 2,053            | .....  |
| Caribbean.....        | Panama Railroad Steamship Line.. | August 27..... | .....          | 500              | .....  |
| Balboa.....           | Panama Railroad Steamship Line.. | August 27..... | .....          | 600              | .....  |

<sup>1</sup> Two packages.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending August 27, 1921.

| Name of vessel.    | Line or charterer.                  | Arrived.       | Departed.      | Cargo—     |        |
|--------------------|-------------------------------------|----------------|----------------|------------|--------|
|                    |                                     |                |                | Discharged | Laded. |
|                    |                                     |                |                | Tons.      | Tons.  |
| Jamaica.....       | Pacific Steam Navigation Co.....    | August 22..... | August 22..... | 1          | .....  |
| Manavi.....        | Pacific Steam Navigation Co.....    | August 23..... | August 23..... | .....      | 1      |
| Laura C. Hall..... | Pacific Metals Transp. Co. Ltd..... | August 24..... | August 24..... | 3          | .....  |
| San Juan.....      | Pacific Mail Steamship Co.....      | August 27..... | .....          | 10         | .....  |
| Laura C. Hall..... | Pacific Metals Transp Co. Ltd.....  | August 26..... | August 26..... | .....      | 32     |

### Whole Cargo of Phosphates from Nauru and Banaba Islands.

The steamship *Keelung*, which passed through the Canal on August 26, was laden with 6,650 tons of phosphates which she had taken on at Nauru and Banaba (Ocean) Islands for the United Kingdom. The *Keelung* had sailed from Adelaide for the islands, which lie to the north-east of Australia, to secure her homeward cargo.

### Pullman Reservations Out of New York.

Mr. J. B. Scott, General Eastern Passenger Agent of the Baltimore and Ohio Railroad Company, 1270 Broadway, New York City, has advised the Executive Office that he will honor any requests he may receive by letter or wire from Panama Canal or Panama Railroad employees for Pullman reservations over the Baltimore and Ohio lines out of New York. If requested, one of the system's steamship passenger agents will meet the ship to notify passengers of the reservations made, and otherwise facilitate arrangements.

### Reduction in Cable Rates to Buenaventura and Cartagena.

The All-America Cables, Inc., has announced a further reduction in the rates for cable messages from the Isthmus for Buenaventura and Cartagena, Colombia, effective August 27. The new rates are 20 cents per word on commercial messages and 10 cents per word on United States Government messages.

### Executive Order.

**To Amend the "Rules and Regulations for the Operation and Navigation of the Panama Canal and Approaches Thereto, Including all Waters under its Jurisdiction."**

I. By virtue of the authority vested in me under the Panama Canal Act, paragraphs 40, 186, and 195 of the "Rules and Regulations for the Operation and Navigation of the Panama Canal and Approaches Thereto, Including all Waters Under its Jurisdiction," promulgated by the Executive Order of July 9, 1914, are hereby amended to read as follows:

"40. As soon as radio communication can be established with the Canal, vessels should report their names, nationality, length, draft, tonnage, whether or not they desire to pass through the Canal, require coal, provisions, supplies, repairs, to go alongside of a wharf, the use of tugs, probable time of arrival, length of stay in port, or any other matters of importance or interest. If this information has been previously communicated, through agents or otherwise, to the Captain of the Port, it will not be necessary to report by radio; but the probable time of arrival should always be sent to the Captain of the Port."

"186. Steamers while within a harbor must take all precautions to avoid the issue of sparks or excessive smoke. Vessels will be held liable for all damage resulting from neglect of this rule."

"195. All privately owned boats of every description, except those propelled in whole or in part by machinery, shall be registered and numbered; those propelled in whole or in part by machinery shall be registered and certificated. Until these requirements have been complied with, no privately owned craft may operate in Canal Zone waters."

II. This order shall take effect from and after this date.

WARREN G. HARDING.

THE WHITE HOUSE,  
July 27, 1921.

(No. 3522.)

The Executive Order above has been published as Panama Canal Circular No. 601-124.

### **Pacific Mail Steamship Company's New Coastwise Passenger Service.**

With the sailing of the steamer *Ecuador* from San Francisco for Baltimore on September 15, the Pacific Mail Steamship Company's San Francisco-Baltimore passenger service will have become regularly established with 3 passenger ships.

In this new service, the Pacific Mail will operate, in addition to the *Ecuador*, the *Colombia* and the *Venezuela*. These last two steamers are already on the new run. It is the endeavor of the company to maintain sailings approximately every 25 days.

The 3 vessels, until recently, have been in the trans-Pacific service and were made available for this new run when the United States Shipping Board turned over various "State" type steamers for the trans-Pacific service.

On this new express service from San Francisco to Baltimore, the ports of call are: Los Angeles Harbor, Manzanillo, San Jose de Guatemala, La Libertad, Corinto, Balboa, Cristobal; Kingston, Jamaica; Habana, Cuba; and Baltimore. The itinerary of the voyage from Baltimore to San Francisco is in the reverse order with the exception that calls at Kingston will only be made when the trade warrants.

The expected times to be made in this service are as follows: From San Francisco to Balboa, 15 days; from Cristobal to Baltimore, 10 days.

With the establishment of Pacific Mail Co.'s passenger service, there are now two coastwise passenger lines through the Canal, as the Matson Navigation Company has a monthly service plying also between San Francisco and Baltimore.



### Dogs from the Isthmus Subject to Quarantine at United States Ports.

The Health Department has been notified by the Bureau of Animal Industry of the United States Department of Agriculture that dogs from the Isthmus are subject to quarantine detention before being allowed to enter the United States. This is primarily on account of ticks. All dogs are subject to inspection by an inspector of the Bureau who may, in his discretion, require that any dogs, except the smaller breeds classed as house dogs, be placed in quarantine or subjected to treatment designed to prevent their introducing communicable diseases.

The ports of entry for such dogs are those designated as quarantine stations for the Bureau. On the Atlantic Coast they are Boston, New York, and Baltimore; on the Pacific, San Francisco, Los Angeles, and San Diego.

### Deceased and Insane Employees.

The estates of the following deceased or insane employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

#### DECEASED.

| Name.                 | Check No. | Native of—    | Isthmian residence. | Employed by—           | Date of death.   |
|-----------------------|-----------|---------------|---------------------|------------------------|------------------|
| Clementine Johnson... | 40200     | Jamaica.....  | Corozal.....        | Health Department...   | August 13, 1921. |
| Leopold Renwick.....  | 31993     | Grenada.....  | Silver City.....    | Commissary Division... | August 8, 1921.  |
| William Ward.....     | 35451     | Barbados..... | Colon.....          | Mechanical Division... | August 16, 1921. |
| Walter Alva Redman... | 22630     | Barbados..... | Colon.....          | Panama Railroad.....   | March 1, 1921.   |
| Richard James.....    | 38847     | Jamaica.....  | Colon.....          | Panama Railroad.....   | August 19, 1921. |
| Norman Thornhill..... | 32616     | Barbados..... | Colon.....          | Panama Railroad.....   | August 22, 1921. |

#### INSANE.

| Name.                | Check No. | Native of—       | Isthmian residence. | Employed by—         | Date of commitment. |
|----------------------|-----------|------------------|---------------------|----------------------|---------------------|
| Beulah B. Eaton..... | 3809      | United States... | Ancon.....          | Panama Railroad..... | August 16, 1921.    |
| David Scott.....     | 34557     | Jamaica.....     | Ancon.....          | Supply Department... | August 24, 1921.    |

### Passenger Train Service—Fort Randolph Branch.

PANAMA RAILROAD COMPANY,  
OFFICE OF MASTER OF TRANSPORTATION,  
BALBOA HEIGHTS, C. Z., August 29, 1921.

CIRCULAR NO. 1879:

To all concerned—Effective with the close of business Wednesday, August 31, the present Fort

Randolph branch scheduled passenger trains will be discontinued.

Effective Thursday, September 1, and daily thereafter until new timetable No. 34 becomes effective, extra passenger trains will be run on the Fort Randolph branch with respect to the following time at all points where shown.

| P. M. | P. M. | P. M. | A. M. | A. M. | LEAVE                           | ARRIVE | A. M. | A. M. | P. M. | P. M. | P. M. |
|-------|-------|-------|-------|-------|---------------------------------|--------|-------|-------|-------|-------|-------|
| 4.45  | 3.15  | 1.30  | 10.30 | 8.30  | ..... Third Street.....         | .....  | 9.25  | 11.25 | 2.25  | 4.25  | 5.40  |
| 4.47  | 3.17  | 1.32  | 10.32 | 8.32  | ..... Seventh Street.....       | .....  | 9.23  | 11.23 | 2.23  | 4.23  | 5.38  |
| 4.49  | 3.19  | 1.34  | 10.34 | 8.34  | ..... Cristobal Commissary..... | .....  | 9.21  | 11.21 | 2.21  | 4.21  | 5.36  |
| 4.52  | 3.22  | 1.37  | 10.37 | 8.37  | ..... Tower "B".....            | .....  | 9.18  | 11.18 | 2.18  | 4.18  | 5.33  |
| 4.58  | 3.28  | 1.43  | 10.43 | 8.43  | ..... France Field.....         | .....  | 9.10  | 11.10 | 2.10  | 4.10  | 5.25  |
| 5.04  | 3.34  | 1.49  | 10.49 | 8.49  | ..... Coco Solo.....            | .....  | 9.05  | 11.05 | 2.05  | 4.05  | 5.20  |
| 5.10  | 3.40  | 1.55  | 10.55 | 8.55  | ..... Fort Randolph.....        | .....  | 9.00  | 11.00 | 2.00  | 4.00  | 5.15  |
| P. M. | P. M. | P. M. | A. M. | A. M. | ARRIVE                          | LEAVE  | A. M. | A. M. | P. M. | P. M. | P. M. |

NOTE—Baggage car having been removed from the above trains, no baggage other than that which is permissible to carry in passenger coaches can be handled on these trains.

APPROVED:

S. W. HEALD, Superintendent.

W. J. BISSELL, Acting Master of Transportation.





# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal Record, Balboa Heights, Canal Zone, or  
The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office  
at Cristobal, C. Z., under the Act of March 3, 1879.



Volume XV. Balboa Heights, C. Z., September 7, 1921. No. 4.

## American Shipping and the Panama Canal.\*

During the fiscal year 1921, in spite of the world-wide depression, which resulted in the laying up of hundreds of ships, a new high record for American tonnage was established at the Panama Canal. The number of American ships making the transit was 1,212 out of a total for all nations of 2,892. These figures do not include vessels of the United States Navy or other Government-owned or chartered vessels not engaged in commercial service and exempt from the payment of tolls. The aggregate net tonnage of these 1,212 vessels, measured according to Panama Canal rules, was 4,874,477, and they carried 5,179,350 tons of cargo. The nearest competitor of the United States in Canal traffic was Great Britain with 970 vessels of 3,965,613 net tons, carrying 3,721,932 tons of cargo. American vessels carried 45 per cent of all the cargo passing through the Canal, and British vessels 32 per cent. The continuous increase of American shipping, using the Canal since it was first opened to navigation in August, 1914, is shown by the following table:

| Fiscal year. | Atlantic to Pacific. | Pacific to Atlantic. | Total. |
|--------------|----------------------|----------------------|--------|
| 1915 .....   | 231                  | 239                  | 470    |
| 1916 .....   | 114                  | 124                  | 238    |
| 1917 .....   | 198                  | 266                  | 464    |
| 1918 .....   | 224                  | 404                  | 628    |
| 1919 .....   | 268                  | 518                  | 786    |
| 1920 .....   | 493                  | 636                  | 1,129  |
| 1921 .....   | 581                  | 631                  | 1,212  |

The low figures for the fiscal year 1916 are accounted for by the circumstance that the Canal was closed to navigation by slides in the Gaillard Cut from September 18, 1915, to April 15, 1916. Subsequently the traffic was adversely affected by the war. Since the armistice it has grown rapidly and continuously.

The 1921 traffic moved over the trade routes shown in the following table:

AMERICAN SHIPPING USING THE PANAMA CANAL DURING THE FISCAL YEAR 1921; SEGREGATION BY TRADE ROUTES.

|                                                                  | Ships. | Cargo tons. |
|------------------------------------------------------------------|--------|-------------|
| United States coastwise, Atlantic to Pacific .....               | 177    | 698,429     |
| United States coastwise, Pacific to Atlantic .....               | 145    | 673,959     |
| East coast of United States to west coast of South America ..... | 129    | 419,994     |
| West coast of South America to east coast of United States ..... | 152    | 629,274     |
| Europe to west coast of North America .....                      | 26     | 66,709      |
| West coast of North America to Europe .....                      | 106    | 736,160     |
| East coast of United States to Far East .....                    | 68     | 502,712     |
| Far East to east coast of United States .....                    | 23     | 140,260     |

\* This is the fourth of a series of articles on trade through the Panama Canal under various national flags. Those previously published dealt with British, Japanese, and Norwegian trade.

AMERICAN SHIPPING USING THE PANAMA CANAL DURING THE FISCAL YEAR 1921; SEGREGATION BY TRADE ROUTES.—contd.

|                                                                 | Ships. | Cargo tons. |
|-----------------------------------------------------------------|--------|-------------|
| East coast of United States to Australasia.....                 | 13     | 88,789      |
| Australasia to east coast of United States.....                 | 17     | 87,385      |
| East coast of Mexico to west coast of North America.....        | 29     | 286,311     |
| West coast of North America to east coast of Mexico.....        | 42     | 14,455      |
| East coast of Mexico to west coast of South America.....        | 36     | 296,342     |
| West coast of South America to east coast of Mexico.....        | 32     |             |
| East coast of Mexico to Balboa.....                             | 9      | 72,452      |
| Balboa to east coast of Mexico.....                             | 11     |             |
| East coast of Mexico to west coast of Central America.....      | 1      | 4,478       |
| East coast of United States to Balboa.....                      | 12     | 95,606      |
| Balboa to east coast of United States.....                      | 10     |             |
| East coast of United States to west coast of Canada.....        | 9      | 58,846      |
| West coast of Canada to east coast of United States.....        | 7      | 32,809      |
| Cristobal to west coast of South America.....                   | 20     | 2,731       |
| West coast of South America to Cristobal.....                   | 19     | 15,051      |
| Cristobal to west coast of North America.....                   | 23     | 29,972      |
| West coast of North America to Cristobal.....                   | 23     | 14,578      |
| East coast of South America to west coast of North America..... | 9      | 31,927      |
| West coast of North America to east coast of South America..... | 3      | 18,941      |
| Miscellaneous trade routes, Atlantic to Pacific.....            | 20     | 37,842      |
| Miscellaneous trade routes, Pacific to Atlantic.....            | 41     | 123,338     |
| Totals.....                                                     | 1,212  | 5,179,350   |

Included under "Miscellaneous Trade Routes" in the tabulated statement above are voyages between the West Indies and the west coast of North America, the West Indies and the west coast of South America, the United States and Central America, Cuba and the Far East, the Far East and Europe, the west coast of South America and Europe, the west coast of North America and South Africa and local vessel movements.

#### THE COASTWISE TRADE.

The most important American trade through the Canal is that from coast to coast, with a cargo tonnage of 1,399,814 carried in 323 vessels. The history of this trade is peculiar. In the first fractional year of Canal traffic (August 15, 1914, to June 30, 1915) it engaged 335 vessels carrying 1,846,658 tons of cargo. During the following year the Canal was closed for 7 months, and in the interval the vessels which had maintained a coastwise service were diverted to war trades in the North Atlantic, where they remained until the close of the war and during the era of high freight rates which followed it. It was only after the slump set in that serious attention was once more given to the development of the trade from coast to coast. It is now growing rapidly, but the figures for 1921, although they show a notable increase over those for 1920 and other recent years, still fall short of the record set in 1915. It is reasonable to assume that if the war had not arrested its normal development the coastwise trade would be far more important than it now is, and that it is capable of great expansion. An interesting and widely advertised feature of the traffic this year was the shipment to eastern markets by sea of a portion of the north-western apple crop and the California orange crop. There was also a notable increase of lumber shipments from the Pacific Coast.

## COMPETITIVE TRADE ROUTES.

The coastwise trade is an American monopoly; but in the other trades served by the Canal, American ships are in competition with the ships of foreign nations, particularly Great Britain, Japan, and Norway. In the important trade between Europe and Australasia American vessels did not figure at all, and in the trade between Europe and the west coast of South America only 4 American vessels passed the Canal, all northbound, with 31,800 tons of cargo. In the oil trade between the Mexican fields and the west coast of South America American tankers carried 296,342 tons out of a total 654,659 tons. With this single exception the trades in which American vessels secured any considerable tonnage had the United States either as origin or destination.

In the trade between Atlantic and Gulf ports of the United States and the west coast of South America the total southbound cargo was 933,261 tons. Of this, American vessels carried 45 per cent, British vessels 15 per cent, Japanese vessels 12 per cent, and Norwegian vessels 7 per cent. Although the trade of other nations has not yet been analyzed in detail, it is probable that the remaining 21 per cent was carried in Chilean and Peruvian bottoms. The northbound cargo aggregated 975,597 tons. American vessels carried 64 per cent of the total, British vessels 14 per cent, Norwegian 10 per cent, and Japanese approximately 5 per cent.

In the trade between Europe and the west coast of North America there is a great preponderance of eastbound cargo. Of this, American vessels carried 55 per cent, British vessels 26 per cent, and Norwegian vessels 4 per cent. Swedish, Danish, and Dutch vessels were also operating over this route, and probably account for most of the remaining 15 per cent. Of the westbound cargo, which was relatively unimportant, American vessels carried 27 per cent, British 14 per cent, and Norwegian 13 per cent.

Of cargo moving from Atlantic and Gulf ports to the Far East, American vessels carried 41 per cent, British vessels 29 per cent, and Japanese vessels 27 per cent. Of cargo moving from the Far East to Atlantic and Gulf ports American vessels carried 32 per cent, Japanese 38 per cent, and British 23 per cent.

In the trade between the United States and Australia, British vessels had a decided advantage, carrying 71 per cent of the total outward bound cargo as against only 14 per cent in American bottoms. Of cargo moving over this route in the opposite direction American vessels carried 56 per cent and British vessels 44 per cent.

Of oil shipments from the Mexican fields to the Pacific Coast north and south of Panama, American vessels carried 60 per cent, and British and Norwegian vessels shared the remainder.

## PRINCIPAL AMERICAN LINES.

The United States Shipping Board owned 451 of the 1,212 American vessels which used the Canal in 1921. The more important private owners were: Standard Oil Co. with 128 vessels; W. R. Grace & Co., 94; Pacific Mail Steamship Co., 84; United States Steel Products Co., 53; Panama Railroad Steamship Line, 50; Luckenbach Line, 37; American-Hawaiian Line, 33; Union Oil Co., 25; Standard Transportation Co., 12; Crowell & Thurlow, 12; Robert Dollar Co., 11.



# MOVEMENTS OF OCEAN VESSELS. Week ending at midnight, September 3, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                 | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                          | Length. | Beam. | Salt water draft. | From—         | For—            | Cargo.            |       | Panama Canal tonnage. |       |
|-----------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|--------------------------------|---------|-------|-------------------|---------------|-----------------|-------------------|-------|-----------------------|-------|
|                       | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                |         |       |                   |               |                 | Nature.           | Tons. | Gross.                | Net.  |
| Point Bonita.         | 27               | 8 26  | 28             | 6 10  | 28                 | 14 30 | 28               | 15 35 | American.    | Pacific Mail Steamship Co.     | 289 0   | 44 0  | 17 1              | Baltimore.    | San Francisco.  | General.          | 2,450 | 2,895                 | 1,993 |
| Katharine R.          | 25               | 6 25  | 28             | 6 30  | 28                 | 14 28 | 28               | 15 35 | American.    | Richard T. Robinson.           | 175 0   | 24 0  | 10 6              | New York.     | San Diego.      | Ballast.          | 1,509 | 408                   | 184   |
| Bogota.               | 28               | 4 25  | 28             | 7 54  | 28                 | 16 45 | 30               | 20 25 | British.     | Pacific Steam Navigation Co.   | 400 0   | 52 0  | 16 0              | Liverpool.    | Valparaiso.     | General.          | 5,723 | 4,015                 |       |
| Ocotrum.              | 28               | 11 01 | 28             | 12 05 | 28                 | 18 24 | 28               | 19 20 | Dutch.       | Stoomvaart Maatschappij        | 360 0   | 48 0  | 13 0              | Glasgow.      | Portland, Oreg. | Ballast.          | 5,600 | 4,714                 | 3,468 |
| Collegian.            | 28               | 10 28 | 28             | 6 35  | 29                 | 15 00 | 29               | 15 53 | British.     | Harrison Line.                 | 455 0   | 56 0  | 24 6              | Liverpool.    | San Francisco.  | General.          | 5,600 | 7,712                 | 5,437 |
| Romulus.              | 24               | 22 30 | 29             | 8 55  | 29                 | 16 37 | 29               | 23 55 | Norwegian.   | A. O. Ljung.                   | 347 0   | 50 0  | 43 0              | Norfolk.      | Talara.         | Ballast.          | 212   | 5,125                 | 3,741 |
| Peninsula.            | 24               | 22 30 | 30             | 7 05  | 30                 | 15 45 | 30               | 18 32 | American.    | United States Navy.            | 606 0   | 89 0  | 30 0              | New York.     | Balboa.         | General.          | 212   | 4,768                 | 2,956 |
| Quilora.              | 28               | 7 21  | 30             | 7 46  | 30                 | 15 57 | 30               | 18 32 | British.     | Pacific Steam Navigation Co.   | 361 0   | 46 0  | 18 1              | New York.     | Guayaquil.      | Ballast.          | 106   | 5,880                 | 4,111 |
| Sainte Dunstan.       | 29               | 18 35 | 30             | 9 42  | 30                 | 17 34 | 30               | 18 22 | British.     | Bankin Gilmore & Co.           | 400 0   | 53 0  | 15 0              | Liverpool.    | Buenaventura.   | General.          | 106   | 741                   | 350   |
| Balboa.               | 27               | 18 30 | 30             | 12 15 | 30                 | 19 07 | 30               | 20 00 | American.    | Colombian Maritime Co.         | 190 0   | 29 0  | 12 6              | Cristobal.    | Buenaventura.   | General.          | 2     | 6,460                 | 4,735 |
| Mongolian Prince.     | 30               | 13 04 | 30             | 13 20 | 30                 | 20 22 | 30               | 21 20 | British.     | Princes Line.                  | 423 0   | 56 0  | 18 6              | New York.     | Vancouver.      | Automobiles.      | 1,628 | 5,694                 | 3,975 |
| Santa Luisa.          | 30               | 13 11 | 31             | 6 25  | 31                 | 12 39 | 31               | 17 43 | American.    | W. R. Grace & Co.              | 360 0   | 51 0  | 20 4              | New York.     | Takehuano.      | General.          | 4,258 | 3,795                 | 2,658 |
| Delco.                | 1                | 2 00  | 1              | 8 45  | 1                  | 16 39 | 1                | 17 43 | American.    | Delco Steamship Co.            | 328 0   | 46 0  | 21 0              | Mobile.       | San Francisco.  | Iron, shell, etc. | 2,000 | 6,015                 | 4,281 |
| Columbia.             | 1                | 7 11  | 2              | 6 07  | 2                  | 14 41 | 2                | 17 55 | American.    | Pacific Mail Steamship Co.     | 380 0   | 48 0  | 24 4              | Baltimore.    | San Francisco.  | General.          | 1,699 | 2,379                 | 1,593 |
| San Juan.             | 28               | 14 25 | 2              | 6 30  | 2                  | 14 56 | 2                | 17 55 | American.    | Pacific Mail Steamship Co.     | 283 0   | 37 0  | 18 4              | Cristobal.    | San Francisco.  | General.          | 2,434 |                       |       |
| Arethusa.             | 2                | 10 10 | 2              | 10 35 | 2                  | 17 59 | 2                | 21 20 | American.    | United States Navy.            | 248 0   | 42 0  | 23 6              | Port Arthur.  | Balboa.         | Fuel oil.         | 900   | 2,835                 | 1,827 |
| Santa Tecla.          | 1                | 21 20 | 2              | 12 44 | 2                  | 20 23 | 2                | 21 40 | American.    | W. R. Grace & Co.              | 298 0   | 40 0  | 16 0              | New York.     | Buenaventura.   | General.          | 30    | 1,496                 | 1,040 |
| Varg.                 | 1                | 17 23 | 2              | 13 20 | 2                  | 20 25 | 2                | 21 40 | Norwegian.   | P. J. Housness.                | 232 0   | 35 0  | 11 6              | New York.     | Tumaco.         | General.          | 631   | 4,552                 | 3,182 |
| Huasco.               | 30               | 17 47 | 3              | 6 18  | 3                  | 14 43 | 3                | 15 40 | Chilean.     | South American Steamship Line. | 355 0   | 44 0  | 21 0              | Cristobal.    | Valparaiso.     | General.          | 3,000 | 10,317                | 7,557 |
| Manulani.             | 2                | 22 30 | 3              | 7 30  | 3                  | 15 51 | 3                | 17 15 | American.    | Mason Navigation Co.           | 480 0   | 62 0  | 20 4              | New York.     | Seattle.        | General.          | 2,000 | 8,785                 | 6,582 |
| Walter A. Luckenbach. | 3                | 12 30 | 3              | 7 58  | 3                  | 16 57 | 3                | 18 10 | American.    | Luckenbach Line.               | 466 0   | 56 0  | 23 0              | Philadelphia. | Los Angeles.    | General.          | 5,400 | 5,224                 | 3,934 |
| Itoga Mendi.          | 3                | 6 49  | 3              | 9 00  | 3                  | 17 48 | 3                | 19 00 | Spanish.     | Sota & Aznar Steamship Co.     | 397 0   | 50 0  | 15 2              | Newport News. | Portland.       | Ballast.          | 378   | 1,157                 | 622   |
| Harold Dollar.        | 3                | 7 11  | 3              | 10 05 | 3                  | 18 42 | 3                | 20 30 | British.     | Dollar Steamship Line.         | 376 0   | 52 0  | 23 2              | New York.     | Vancouver.      | General, sugar.   | 6,000 |                       |       |
| Jamaica.              | 31               | 9 26  | 3              | 9 35  | 3                  | 18 50 | 3                | 22 20 | British.     | Pacific Steam Navigation Co.   | 220 0   | 34 0  | 12 4              | Cartagena.    | Tumaco.         | General.          | 6,000 |                       |       |
| Canadian Mariner.     | 3                | 7 44  | 3              | 11 25 | 3                  | 19 36 | 3                | 20 45 | British.     | Canadian Government.           | 399 0   | 52 0  | 26 6              | Montreal.     | Auckland.       | Oil and general.  |       |                       |       |
| S. C. 287.            |                  |       | 3              | 13 20 | 3                  | 19 32 |                  |       | American.    | United States Navy.            |         |       |                   | Cristobal.    | Balboa.         |                   |       |                       |       |

\* Yacht.

\* Battleship.

\* Tanker.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Ship.      | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                      | Length. | Beam. | Salt water draft. | From—          | For—       | Cargo.  |       | Panama Canal tonnage. |       |
|------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------|---------|-------|-------------------|----------------|------------|---------|-------|-----------------------|-------|
|            | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                            |         |       |                   |                |            | Nature. | Tons. | Gross.                | Net.  |
| San Juan.  | 27               | 13 30 | 28             | 7 20  | 28                 | 14 25 | 28               | 15 20 | American.    | Pacific Mail Steamship Co. | 283 0   | 37 0  | 15 0              | San Francisco. | Cristobal. | (*)     | 873   | 2,379                 | 1,593 |
| Venezuela. | 28               | 6 57  | 28             | 14 23 | 28                 | 21 15 | 29               | 15 20 | American.    | Pacific Mail Steamship Co. | 380 0   | 48 7  | 24 0              | San Francisco. | Baltimore. | (*)     | 4,007 | 6,033                 | 4,553 |
| Pleades.   | 29               | 8 50  | 29             | 10 15 | 29                 | 18 15 | 29               | 22 48 | American.    | Luckenbach Line.           | 331 0   | 47 9  | 20 0              | Tacoma.        | Mobile.    | (*)     | 2,929 | 4,147                 | 3,220 |

\* Coffee, hides, cocoa, and general.

\* Beans, canned goods, and rice.



| Orcus                  | 29 | 10 | 25 | 29 | 11 | 08 | 29 | 19 | 30 | 30 | 1  | 23 | American  | Wessel Duval & Co. (S. B.)       | 390.2 | 53.1 | 23.0 | Talca         | New Orleans  | Nitrate of soda  | 6,670 | 5,665  | 4,220 |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------------------------|-------|------|------|---------------|--------------|------------------|-------|--------|-------|
| Urubamba               | 29 | 12 | 05 | 29 | 13 | 09 | 29 | 20 | 15 | 4  | 11 | 20 | Peruvian  | Peruvian Line                    | 381.2 | 46.1 | 17.1 | Callao        | Christobal   | ( <sup>6</sup> ) | 1,173 | 4,803  | 2,951 |
| Edward Luck-<br>enbach | 29 | 22 | 45 | 30 | 7  | 25 | 30 | 15 | 30 | 31 | 3  | 35 | American  | Luckenbach Line                  | 436.6 | 57.2 | 26.0 | Los Angeles   | Philadelphia | General          | 7,500 | 8,540  | 6,427 |
| Victoria Maru          | 28 | 13 | 00 | 30 | 8  | 32 | 30 | 19 | 50 | 30 | 19 | 50 | Japanese  | Kaibisha Kaisha Kaw Zosaiyo      | 345.0 | 51.0 | 27.0 | Portland      | London       | Wheat            | 7,226 | 6,250  | 4,691 |
| Hoyosan Maru           | 30 | 5  | 30 | 30 | 9  | 34 | 30 | 18 | 42 | 30 | 19 | 45 | Japanese  | Mitsui Bussan Kaisha             | 407.5 | 50.8 | 25.6 | Portland      | United King  | Wheat in sacks   | 7,438 | 6,390  | 5,733 |
| Huaso                  | 29 | 23 | 20 | 30 | 9  | 38 | 30 | 17 | 47 | 3  | 6  | 18 | Chilean   | South American Steamship Co.     | 378.0 | 44.0 | 22.6 | Talcahuano    | Christobal   | General          | 1,078 | 4,557  | 3,182 |
| Rio Grande             | 30 | 4  | 00 | 30 | 10 | 34 | 30 | 21 | 30 | 31 | 1  | 15 | Norwegian | Nordenfjeldske Steamship Co.     | 360.3 | 52.1 | 25.0 | Talcahuano    | London       | General          | 6,300 | 5,137  | 3,787 |
| Pennsylvania           | 30 | 21 | 00 | 31 | 7  | 15 | 31 | 15 | 00 | 31 | 15 | 00 | American  | American Hawaiian Line           | 407.7 | 53.7 | 23.0 | Hilo          | Hampton R'ds | Sugar            | 9,000 | 7,107  | 4,953 |
| Namasket               | 30 | 21 | 30 | 31 | 7  | 51 | 31 | 16 | 35 | 3  | 23 | 30 | American  | E. C. Evans (S. B.)              | 402.5 | 53.0 | 26.6 | San Francisco | Southampton  | Barley           | 7,653 | 6,511  | 4,863 |
| El Dorado              | 31 | 13 | 00 | 31 | 14 | 31 | 31 | 21 | 26 | 1  | 12 | 50 | American  | Western Transport Co.            | 245.6 | 42.0 | 16.5 | San Francisco | New Orleans  | General          | 1,820 | 2,439  | 1,662 |
| Aniston City           | 1  | 6  | 20 | 1  | 7  | 09 | 1  | 14 | 37 | 1  | 14 | 37 | American  | United States Steel Products Co. | 424.2 | 56.0 | 22.0 | Seattle       | Baltimore    | General          | 6,218 | 7,539  | 5,445 |
| Laurel Branch          | 1  | 7  | 50 | 1  | 8  | 42 | 1  | 16 | 25 | 1  | 20 | 30 | British   | Nautilus Steamship Co.           | 350.2 | 46.0 | 21.0 | Valparaiso    | London       | Nitrate, metal   | 5,117 | 4,182  | 3,325 |
| San Silvestre          | 1  | 23 | 00 | 2  | 7  | 20 | 2  | 16 | 35 | 2  | 17 | 35 | British   | Earle Oil Transport Co.          | 420.0 | 54.0 | 27.5 | Vancouver     | Tampico      | Ballast          | 9,207 | 8,609  | 5,978 |
| Somershire             | 2  | 6  | 30 | 2  | 9  | 45 | 2  | 16 | 46 | 3  | 5  | 55 | British   | Ladbroke & Co.                   | 450.0 | 57.3 | 27.5 | Wellington    | Hull         | General, barley  | 1,180 | 1,651  | 918   |
| Barina                 | 2  | 10 | 30 | 2  | 11 | 42 | 2  | 18 | 15 | 3  | 15 | 55 | British   | Pacific Steam Navigation Co.     | 220.0 | 37.0 | 10.0 | Champerico    | Christobal   | General          | 4,482 | 11,197 | 8,322 |
| Ruahine                | 2  | 19 | 45 | 3  | 7  | 13 | 3  | 16 | 10 | 3  | 22 | 15 | British   | New Zealand Shipping Co.         | 480.6 | 60.3 | 26.0 | Wellington    | England      | ( <sup>7</sup> ) | 6,936 | 6,755  | 4,899 |
| West Ira               | 2  | 14 | 52 | 3  | 8  | 14 | 3  | 15 | 30 | 3  | 22 | 15 | British   | Struthers & Dixon (S. B.)        | 410.5 | 54.2 | 25.5 | San Francisco | United King  | ( <sup>7</sup> ) | 6,176 | 9,943  | 7,580 |
| Somersel               | 3  | 7  | 40 | 3  | 10 | 10 | 3  | 17 | 45 | 3  | 20 | 00 | British   | New Zealand Shipping Co.         | 460.6 | 62.8 | 26.0 | Bluff         | London       | ( <sup>7</sup> ) |       |        |       |

\* Copper, cotton, hides, coffee, etc.

† Frozen meat and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS.  |               |                                 |                     | *DEPARTURES. |               |                              |                          |
|-------------|---------------|---------------------------------|---------------------|--------------|---------------|------------------------------|--------------------------|
| Date.       | Vessel.       | Line.                           | From—               | Date.        | Vessel.       | Line.                        | For—                     |
| August 28   | Atenas        | United Fruit Co.                | New Orleans.        | August 28    | Atenas        | United Fruit Co.             | Bocas del Toro.          |
| August 28   | Camden        | United Fruit Co.                | Tampico.            | August 28    | San Pablo     | United Fruit Co.             | Boston.                  |
| August 28   | San Pablo     | United Fruit Co.                | Boston.             | August 30    | Caribbean     | Panama Railroad              | Cattle Industry.         |
| August 29   | Cartago       | United Fruit Co.                | New Orleans.        | August 31    | Camden        | United Fruit Co.             | Cartagena.               |
| August 30   | Pastores      | United Fruit Co.                | New York.           | August 31    | Cristobal     | Panama Railroad              | Puerto Lobos.            |
| August 30   | San Blas      | United Fruit Co.                | Boston.             | August 31    | San Blas      | Panama Railroad              | Norfolk.                 |
| August 30   | Oranie Nassau | United Fruit Co.                | Amsterdam.          | August 31    | Atenas        | United Fruit Co.             | Boston.                  |
| August 31   | Ulysses       | Royal Netherlands W. I. Mail    | Bocas del Toro.     | August 31    | Pastores      | United Fruit Co.             | New Orleans.             |
| September 1 | Oranie Nassau | Panama Railroad                 | Norfolk.            | August 31    | Oranie Nassau | Royal Netherlands W. I. Mail | New York via Port Limon. |
| September 3 | Alliance      | Royal Netherlands W. I. Mail    | Port Limon.         | August 31    | Oranie Nassau | Royal Netherlands W. I. Mail | Port Limon.              |
| September 3 | Coronado      | Panama Railroad Steamship Line. | New York via Haiti. | September 3  | Coronado      | Elders & Fyffes, Ltd         | Kingston.                |
| September 3 |               | Elders, & Fyffes, Ltd           | Port Limon.         |              |               |                              |                          |

\* Other than ships passing through the Canal.

### August Traffic Highest for Any Month Since March.

Commercial traffic through the Panama Canal in the month of August was greater than it had been during any month since March, 1921. The month of March established a high record in tonnage of vessels and tolls earned; but in the months following March there was a distinct decline, a part of the general business and marine depression over the world.

The extent of this decline in the Canal traffic, and of the recovery in August, is indicated in the following summary of the traffic through the Canal in the past six months:

| 1921.       | Number of ships. | Panama Canal net tonnage. | Registered gross tonnage. | Tolls.         | Tons of cargo. |
|-------------|------------------|---------------------------|---------------------------|----------------|----------------|
| March.....  | 255              | 1,112,818                 | 1,417,220                 | \$1,105,536.55 | 1,084,563      |
| April.....  | 227              | 955,503                   | 1,203,087                 | 927,977.09     | 907,613        |
| May.....    | 210              | 864,617                   | 1,092,602                 | 835,882.77     | 792,735        |
| June.....   | 192              | 761,477                   | 960,857                   | 751,964.12     | 694,720        |
| July.....   | 206              | 810,613                   | 1,022,802                 | 804,503.11     | 708,982        |
| August..... | 236              | 965,276                   | 1,219,817                 | 955,380.78     | 839,273        |

In June, 1921, the tolls were lower than they had been for any month for a year preceding; in June, 1920, the tolls amounted to \$711,159.19, and they have never since been less than that. In tons of cargo carried through the Canal, June, 1921, was the lowest month since November, 1919, when the aggregate cargo was 575,480. July showed a distinct increase, and the traffic in August was about as great as that in October and November of last year.

On the basis of the number of commercial ships making the transit, the traffic in August, 236 ships, was less than the average per month during the fiscal year ending June 30, 1921, in which 2,892 vessels made the transit, an average of 241 per month. The vessels in August, however, were more than the average per month for any other period of 12 months since the opening of the Canal. The month of most ships and greatest quantity of cargo in the history of the Canal was January, 1921, with 279 commercial vessels and 1,177,052 tons of cargo.

March, 1921, exceeded January in tonnage of vessels and in the tolls earned.

The increase of August traffic over the preceding months is due in part to the heavy grain shipments from the west coast of the United States and Canada. Out of a total of 120 vessels passing through the Canal from the Atlantic to the Pacific, 44 were bound to ports on the west coast of the United States and Canada, many of them in ballast; and of 116 vessels transiting the Canal from the Pacific to the Atlantic, 51 had sailed from ports of western United States and Canada, carrying principally grain, canned goods, and lumber.

### Nitrate and Coal Cargoes.

In THE PANAMA CANAL RECORD for June 15, 1921, reference was made to the shrinkage of nitrate shipments, which averaged 166,325 tons a month during the calendar year 1920, but declined rapidly from 195,885 tons in January, 1921, to 43,504 tons in May. There was a slight recovery in June, when 58,801 tons passed through the Canal; but in July a new low-water mark was recorded with only 26,051 tons.

Don Alejandro Bertrand, delegate of the Association of Nitrate Producers in Europe, in a report summarized in the *South Pacific Mail* of Valparaíso, submits the following analysis of the situation:

Before 1908 nitrate had but one rival, sulphate of ammonia, with a development very inferior to nitrate. From 1909 to 1913 cyanide and nitrate of calcium began to make their appearance, while at the same time the production of sulphate of ammonia increased much more than that of nitrate. In 1913, in its turn, synthetic ammonia made its appearance, though in a small proportion. In that year nitrate was still dominant.

In 1917 the development of nitrate reached its maximum capacity. Synthetic ammonia was produced to a maximum degree in Germany in 1918. Sulphate of ammonia, extracted from coal, seems to have reached its full development in Germany and the United Kingdom, and especially the United States, while it continues to increase in other countries, notably Australia and Japan. At the present moment the production of chloride of ammonia and other new salts is being encouraged for the purpose of fertilization.

To sum up, nitrate, which represented 56 per cent of the world's total fertilizer production in 1913-1917, has fallen to-day to less than 35 per cent, according to the most favorable calculations, and it seems threatened with a descent to still lower depths in the current year.

If this analysis is correct there would appear to be little reason to expect an early resumption of nitrate shipments on a large scale, especially as importers of nitrate are now overstocked with purchases made at prices higher than current quotations.

The interests of the Panama Canal are affected, not only because nitrate made up one-third of the total northbound cargo in the calendar year 1920, but because the cessation of shipments has had an adverse effect on bulk cargo moving in the opposite direction, notably coal.

Coal shipments to the west coast of South America have declined from 76,157 tons in January, 1921, to 1,664 tons in July. In the same period southbound coal shipments to all destinations have fallen from 110,648 tons to 8,258 tons, for the respective months. After fuel oil, coal has been the most important single commodity moving south through the Canal in bulk. Vessels which carried coal cargoes south usually returned with nitrate, so that the two trades are to a great extent mutually dependent, and the decay of one involves the corresponding decline of the other.

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#### **Cargo of 7,600 Tons of Pineapples.**

The steamship *Steel Ranger* of the Isthmian Lines (United States Steel Products Co.), bound from Honolulu, via Panapali, passed through the Canal on September 4 with a full cargo of canned pineapples, amounting to 7,600 tons. The pineapples were shipped from Honolulu, and were consigned to Baltimore, Philadelphia, New York, and Boston.

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#### **Furness, Withy & Company to Operate Monthly Service Between North Pacific Ports and United Kingdom.**

Furness, Withy & Company are to establish a regular service of cargo ships between Pacific Coast ports of Canada and the United States and the United Kingdom. Sailings are to be approximately monthly.

The *Mongolian Prince*, which passed through the Canal on August 30, bound from New York for Vancouver, is due to make the initial homeward voyage in the new service, sailing from Vancouver, via Seattle, Tacoma, and Portland about the end of September.



### Luckenbach Company Establishes Gulf-West Coast Service.

The Luckenbach Steamship Company has established a coastwise service through the Canal between Mobile and New Orleans, on the Atlantic, and Los Angeles, San Francisco, Oakland, Astoria, Portland, Seattle, and Tacoma on the Pacific. Sailings are approximately monthly in each direction. The *Frederick Luckenbach* passed through the Canal on August 11, from New Orleans for Los Angeles; and the *Pleiades*, making the opening voyage from the Pacific, passed through the Canal on August 29, bound for Mobile, via Cuban ports and Savannah.

The service between the Gulf ports and the west coast is separate from the old line between the west coast and New York and Philadelphia, which has sailings in each direction about every three weeks.

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### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended September 3:

Barges *No. 171*, dock, stage, scale bottom, paint bottom to light load line, and repair and renew fenders; *No. 147*, dock, stage, scale bottom, and paint bottom to light load line; *No. 46*, dock, stage, scale bottom, and paint bottom to light load line; *No. 188*, dock, stage, scale bottom, and paint bottom to light load line; tug *Bolivar*, dock, stage, scale bottom, and paint bottom to light load line; steamship *Bogota*, repair main injection valve; dredge *Cascadas*, miscellaneous engine repairs.

#### PREVIOUSLY REPORTED.

Launch *Santa Rita*, renewal of sternpost and repairs to keel; steamship *Solana*, dock, stage, clean, paint bottom, and miscellaneous engineers' and deck department repairs; launch *P-I*, rebuilding of hull; tug *Gorgona*, miscellaneous repairs; launch *Pacific*, general repairs to hull; steamship *Panama*, reboilering and general overhaul to machinery and hull; tug *Coco Solo*, install new engine; U. S. S. *Dolphin*, dock, stage and clean, and paint bottom; calk tank seams.

The following vessels were at the Cristobal shops for repairs during the week ended September 5:

Steamships *Ulysses*, *Allianca*, *Cristobal*, and *General G. W. Goethals*, miscellaneous repairs to engine, deck, and steward departments; *Urubamba*, furnish men to clean in boiler rooms, etc.; *Namasket*, renew gaskets in gear casing caps and all joints where leaking in oil system; renew and refit keys in flywheel of both ice machines, etc.; barge *S*, dock and undock; clean and paint bottom; repair fender where necessary; renew rivets as necessary; tug *Favorite*, make 24 flue plugs as sample and make 2 pad eyes as sample; steamships *Toedjoe*, manufacture and install bulwarks on both sides of ship; fresh water tanks and ice chest to be shifted to make room for officers' mess accommodations; sea valves to be examined and ground in; valve motion gear to be overhauled; main bearings and main engines to be examined and adjusted, etc.; *Varg* and *Tiga*, minor repairs.

#### PREVIOUSLY REPORTED.

U. S. S. *Eagle No. 31*, overhaul sea valves and zincs; motor schooner *Satow*, general overhauling, including dry-docking; claret *No. 7*, miscellaneous repairs including docking; U. S. junior mineplanter *Nones*, manufacturing awnings, stanchions, etc.

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### Coal Bunkering Prices at Various Ports.

Through the courtesy of Messrs. Willard, Sutherland & Co., the following quotations on bunker coal are published. They are quoted as of August, with the understanding that they are simply an indication of prices current at the time the lists were made up, and are subject to change or withdrawal without notice:



**Coal Bunkering Prices at Foreign Ports as of August 3, 1921.**

Adelaide, 45/6 to 50/6 according to point of delivery.  
 Aden, 90/. Indian and/or South African.  
 Albany, Australia, 55/.  
 Algiers, 60/. Best American or Welsh. 55/ from August 22.  
 Alicante. Upon application.  
 Amsterdam, 29 Fl. Durham coal.  
 Almeria. Upon application.  
 Antwerp, 52/6. Welsh or Saar Valley.  
 Azores, 80/.  
 Bahia, 97/6.  
 Bahia Blanca, 84/.  
 Balboa, \$17.  
 Barbados, 77/.  
 Barcelona. Upon application.  
 Batavia, Fl. 47.50 to 67.50, according to quality and point of delivery.  
 Bermuda, \$15.  
 Bilbao. Upon application.  
 Bombay, Rs. 44/ on April 2.  
 Brake, 67/ to 71/ according to description.  
 Bremen, 67/ to 71/ according to description.  
 Bremerhaven, 67/ to 71/ according to description.  
 Brisbane, Australia, 18/2 to 24/4, according to quality and point of delivery.  
 Brixham, 60/. Denaby coal.  
 Buenos Aires, 80/.  
 Cairns, Australia, 65/.  
 Cape Town, 51/9 to 55/9, according to quality.  
 Cadiz. Upon application.  
 Cardiff, 38/6.  
 Cartagena. Upon application.  
 Colombo, 60/3 to 87/3, according to quality.  
 Colon, \$15.  
 Constantinople, 70/, American; 60/, Turkish.  
 Copenhagen, 65/.  
 Corcubian. Upon application.  
 Corunna. Upon application.  
 Curacao, D. W. I., \$15.75.  
 Dakar, 67/6.  
 Dartmouth-Portland, 57/6. Dominion or North Country coal.  
 Delagoa Bay, 41/6. Screened round coal.  
 Dover, 62/6. Durham.  
 Drontheim. Upon application.  
 Dunkirk, 141 francs.  
 Dublin, 81/ (on July 20).  
 Emden, 67/ to 71/, according to description.  
 Falmouth, 60/.  
 Fowey, 62/6. Welsh (54/ from August 17).  
 Fremantle, 55/.  
 Geestmunde, 67/ to 71/.  
 Gibraltar, 60/ plus 1/ export tax (55/ from August 22).  
 Glasgow, 37/ to 40/, according to quality.  
 Gothenborg, Kr. 65.  
 Grimsby, 45/ to 46/.  
 Hamburg, 53/6.  
 Havre. Upon application.

**Coal Bunkering Prices at United States and Canadian Ports as of August 15, 1921.**

New York, N. Y., \$6.25, Valona coal, f. a. s. ex lighters; \$7.25, Varden coal, f. a. s., ex lighters.  
 Philadelphia, Pa., and Baltimore, Md., \$5.35, Valona coal, f. o. b. under chutes at coal piers; \$5.85, Varden coal, f. o. b. under chutes at coal piers.  
 Newport News, Va., Sewalls Point, Va., and Lamberts Point, Va., \$5.60, pools 1 and 2 or equal f. o. b. under chutes at coal piers.  
 Portland, Me., \$9.50 t. i. b. ex lighters; \$8 t. i. b. alongside suppliers' wharf.  
 Boston, Mass., \$10 t. i. b. ex lighters.  
 Wilmington, N. C., \$11 f. o. b. ex lighters.  
 Charleston, S. C., \$7 f. o. b. piers.  
 Savannah, Ga., \$7 f. o. b. piers.  
 Jacksonville, Fla., \$10.50 t. i. b. alongside suppliers' wharf.  
 Tampa, Fla., \$10.50 t. i. b. alongside suppliers' wharf.  
 Pensacola, Fla., \$5.75 high grade Black Creek, \$5.40 Cahaba, \$5.25 Pratt, f. o. b. and trimmed.  
 Mobile, Ala., \$6 high grade washed Black Creek f. o. b. under chutes.  
 New Orleans, La., \$7.65 Sipsey, \$7 Warrior River, \$6.90 Pratt R/M, t. i. b. ex lighters.  
 Galveston, Tex., \$12 t. i. b. ex lighters alongside Galveston Wharf Co. wharves.

Holtenau. Upon application.  
 Hook of Holland, 28.50 Fl. Durham coal.  
 Huelva. Upon application.  
 Hull, 45/ to 46/.  
 Karachi, 24 rupees.  
 La Plata, 80/.  
 Las Palmas, 66/.  
 Leith, 36/ to 39/.  
 Liverpool, 42/ to 46/.  
 London-Gravesend, 61/. Durham.  
 Madeira, 66/.  
 Malta, 67/6. Welsh.  
 Marseilles, 180 fcs. French.  
 Mauritius, 80/.  
 Melbourne, 40/ to 43/ according to point of delivery.  
 Montevideo, 80/.  
 Newcastle, Australia, 26/3.  
 Newcastle, U. K., 33/ to 39/, according to quality.  
 Newport, 38/6.  
 Nordenham, 67/ to 71/, according to description.  
 Oran, 65/.  
 Padang, Fl. 40.64.  
 Pernambuco, 97/6.  
 Piraeus, 70/.  
 Plymouth, 57/6. North Country.  
 Port Kembla, 35/3.  
 Port Natal, 41/3 to 42/9, according to quality.  
 Port Pirie, 41/ to 42/6.  
 Port Said, 80/. British or American.  
 Port Talbot, 38/6.  
 Pulo Laut, S. E., Borneo, Fl. 35.56.  
 Queensborough. Upon application.  
 Rio de Janeiro, 90/.  
 Rosario, 82/6.  
 Rotterdam, 27 Fl. Durham coal.  
 St. Lucia, 77/.  
 St. Thomas, V. I., 70/, from August 5.  
 St. Vincent, C. V. I., 67/6.  
 Sandnessjoen. Upon application.  
 Santos, 92/6.  
 Singapore, 70/ to 102/6, according to quality.  
 Surabaya, Fl. 47.50 to 67.50, according to quality and point of delivery.  
 Southampton, 65/. Welsh or North Country.  
 Swansea, 38/6.  
 Sydney, Australia, 32/.  
 Sydney Harbor, Australia, 25/3.  
 Tarragona. Upon application.  
 Tenerife, 66/.  
 Townsville, Australia, 55/ to 65/, according to point of delivery.  
 Trieste. Upon application.  
 Trinidad, 76/.  
 Trondhjem. Upon application.  
 Valencia. Upon application.  
 Vlaardingen. Upon application.  
 Far Eastern ports. Upon application.

**CANADIAN PORTS.**

Union Bay, Vancouver, \$9.21. Comox steam coal f. o. b. under chutes at coal piers.  
 Halifax, \$10.75 t. i. b. ex lighters.  
 North Sydney, N. S., \$8 under chutes plus 25 cents trimmed.  
 Sydney-Louisburg, \$8 t. i. b.  
 Pictou, N. S., \$7.50 t. i. b. at suppliers' pier.  
 Montreal-Quebec, \$9.75 t. i. b. at suppliers' dock.  
 St. John's, N. F., \$18.25 screened North Sydney coal f. o. b.  
 St. John, N. B., \$10.75 t. i. b.

# Commercial Traffic through the Panama Canal in August, 1921, by Trade Routes.

## ATLANTIC TO PACIFIC.

| Route and registry.                                                    | No. of vessels. | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. | Tolls.      | Cargo.            |
|------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
| <i>United States coastwise:</i>                                        |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| United States.....                                                     | 19              | 69,818                    | 86,278            | 107,565           | 68,529          | \$81,734.17 | 55,387            |
| <i>From United States to Far East:</i>                                 |                 |                           |                   |                   |                 |             |                   |
| Japanese.....                                                          | 8               | 31,678                    | 35,089            | 46,032            | 31,133          | 38,785.15   | 40,921            |
| British.....                                                           | 6               | 24,770                    | 33,955            | 39,426            | 24,674          | 30,962.50   | 41,725            |
| United States.....                                                     | 4               | 18,553                    | 21,212            | 25,822            | 17,762          | 23,191.25   | 29,808            |
| Totals.....                                                            | 18              | 75,001                    | 90,256            | 111,280           | 73,569          | 92,938.90   | 112,454           |
| <i>From Europe to west coast of United States:</i>                     |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 12              | 38,024                    | 47,734            | 56,914            | 35,753          | 37,170.38   | 684               |
| United States.....                                                     | 2               | 8,642                     | 11,186            | 13,677            | 8,641           | 8,053.92    |                   |
| Danish.....                                                            | 1               | 4,567                     | 4,618             | 5,973             | 4,585           | 5,541.60    |                   |
| Dutch.....                                                             | 1               | 3,132                     | 3,468             | 3,684             | 2,209           | 2,496.96    |                   |
| Norwegian.....                                                         | 1               | 1,188                     | 1,328             | 2,068             | 1,172           | 956.16      |                   |
| Totals.....                                                            | 17              | 55,553                    | 68,334            | 82,316            | 52,360          | 54,219.02   | 684               |
| <i>From Cristobal, C. Z. to west coast of South America:</i>           |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 6               | 2,777                     | 3,627             | 4,880             | 2,970           | 3,471.25    | 951               |
| Peruvian.....                                                          | 3               | 3,708                     | 7,750             | 12,325            | 6,031           | 4,635.00    | 562               |
| Chilean.....                                                           | 2               | 3,260                     | 5,645             | 6,367             | 3,888           | 4,075.00    | 1,824             |
| United States.....                                                     | 1               | 336                       | 350               | 615               | 372             | 420.00      | 106               |
| Totals.....                                                            | 12              | 10,081                    | 17,372            | 24,187            | 13,261          | 12,601.25   | 3,443             |
| <i>From Europe to west coast of South America:</i>                     |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 6               | 21,373                    | 28,654            | 35,973            | 22,238          | 26,716.25   | 10,751            |
| Norwegian.....                                                         | 2               | 6,142                     | 6,178             | 8,153             | 6,105           | 7,425.60    | 5,395             |
| Danish.....                                                            | 1               | 4,257                     | 5,317             | 6,645             | 4,244           | 5,321.25    | 3,421             |
| French.....                                                            | 1               | 3,600                     | 4,146             | 5,765             | 3,681           | 4,500.00    | 124               |
| Dutch.....                                                             | 1               | 2,224                     | 3,607             | 3,623             | 2,229           | 2,780.00    | 3,809             |
| Totals.....                                                            | 11              | 37,596                    | 47,902            | 60,159            | 38,497          | 46,743.10   | 23,500            |
| <i>From United States to west coast of South America:</i>              |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                     | 7               | 16,527                    | 21,284            | 27,384            | 16,665          | 20,655.05   | 9,936             |
| Norwegian.....                                                         | 2               | 3,795                     | 5,220             | 5,201             | 3,174           | 4,468.32    | 81                |
| British.....                                                           | 2               | 3,092                     | 4,549             | 5,964             | 3,274           | 3,865.00    | 932               |
| Totals.....                                                            | 11              | 23,414                    | 31,053            | 38,549            | 23,113          | 28,988.37   | 10,949            |
| <i>From Europe to Australasia:</i>                                     |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 6               | 36,133                    | 42,837            | 52,300            | 33,067          | 44,684.00   | 16,266            |
| <i>From United States to Australasia:</i>                              |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 3               | 15,641                    | 18,941            | 24,672            | 15,666          | 19,551.25   | 16,850            |
| United States.....                                                     | 1               | 4,497                     | 4,524             | 5,840             | 4,497           | 5,428.80    | 8,000             |
| Swedish.....                                                           | 1               | 4,004                     | 4,249             | 4,594             | 3,452           | 5,005.00    | 6,300             |
| Totals.....                                                            | 5               | 24,142                    | 27,714            | 35,106            | 23,615          | 29,985.05   | 31,150            |
| <i>From United States to Balboa, C. Z.:</i>                            |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                     | 4               | 15,261                    | 17,564            | 22,618            | 15,115          | 19,073.25   | 19,114            |
| <i>From Europe to west coast of Canada:</i>                            |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 2               | 8,945                     | 11,771            | 14,305            | 9,019           | 9,120.48    | 5,600             |
| United States.....                                                     | 1               | 3,458                     | 4,924             | 5,546             | 3,458           | 4,322.50    | 3,228             |
| Totals.....                                                            | 3               | 12,403                    | 16,695            | 19,851            | 12,447          | 13,442.98   | 8,828             |
| <i>From Mexico to west coast of South America:</i>                     |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                     | 1               | 4,203                     | 5,041             | 6,703             | 4,203           | 5,253.75    | 10,000            |
| British.....                                                           | 1               | 3,916                     | 4,546             | 6,233             | 3,948           | 4,895.00    | 7,718             |
| Totals.....                                                            | 2               | 8,119                     | 9,587             | 12,936            | 8,151           | 10,148.75   | 17,718            |
| <i>Foreign ships in ballast between United States coastwise ports:</i> |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 2               | 6,875                     | 7,759             | 8,579             | 5,678           | 5,618.25    |                   |
| <i>Colombian coastwise:</i>                                            |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 1               | 614                       | 622               | 1,138             | 602             | 746.40      | 790               |
| United States.....                                                     | 1               | 336                       | 350               | 615               | 372             | 420.00      | 20                |
| Totals.....                                                            | 2               | 950                       | 972               | 1,753             | 974             | 1,166.40    | 810               |
| <i>From Cristobal, C. Z., to Central America:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                           | 2               | 1,429                     | 1,624             | 2,731             | 1,463           | 1,786.25    | 1,128             |
| <i>From east coast of Mexico to Balboa, C. Z.:</i>                     |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                     | 1               | 4,695                     | 5,940             | 7,641             | 4,678           | 5,868.75    | 9,000             |

## ATLANTIC TO PACIFIC—Continued.

| Route and registry.                                              | No. of<br>vessels. | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered<br>gross. | Registered<br>net. | Tolls.     | Cargo.                 |
|------------------------------------------------------------------|--------------------|---------------------------------|-------------------------|----------------------|--------------------|------------|------------------------|
| <i>From east coast of United States to west coast of Canada:</i> |                    |                                 |                         |                      |                    |            | <i>Long tons.</i><br>2 |
| British.....                                                     | 1                  | 3,722                           | 4,735                   | 5,880                | 3,725              | \$4,652.50 |                        |
| <i>From east coast of South America to Far East:</i>             |                    |                                 |                         |                      |                    |            |                        |
| Japanese.....                                                    | 1                  | 3,645                           | 4,230                   | 5,761                | 3,556              | 4,566.25   | 3,977                  |
| <i>From West Indies to west coast of Canada:</i>                 |                    |                                 |                         |                      |                    |            |                        |
| British.....                                                     | 1                  | 3,571                           | 4,143                   | 5,443                | 3,363              | 4,463.75   | 2,000                  |
| <i>From Cristobal, C. Z., to west coast of United States:</i>    |                    |                                 |                         |                      |                    |            |                        |
| United States.....                                               | 1                  | 1,862                           | 2,206                   | 3,169                | 1,862              | 2,327.50   | 1,560                  |
| <i>Costa Rican coastwise:</i>                                    |                    |                                 |                         |                      |                    |            |                        |
| Costa Rican.....                                                 | 1                  | 25                              | 18                      | 28                   | 18                 | 18.75      |                        |
| Totals, August, 1921.....                                        | 120                | 394,295                         | 487,219                 | 607,852              | 387,071            | 465,017.24 | 317,970                |
| Totals, July, 1921.....                                          | 105                | 324,330                         | 403,051                 | 508,670              | 321,763            | 405,220.18 | 258,440                |
| Totals, August, 1920.....                                        | 143                | 407,933                         | 492,504                 | 622,073              | 396,312            | 493,418.85 | 539,954                |

## PACIFIC TO ATLANTIC.

|                                                                         |    |        |         |         |        |             |                   |
|-------------------------------------------------------------------------|----|--------|---------|---------|--------|-------------|-------------------|
| <i>From west coast of United States to Europe:</i>                      |    |        |         |         |        |             | <i>Long tons.</i> |
| Japanese.....                                                           | 9  | 38,633 | 41,438  | 54,442  | 37,678 | \$47,568.75 | 66,634            |
| United States.....                                                      | 7  | 28,039 | 36,360  | 44,827  | 29,068 | 35,048.75   | 54,971            |
| Danish.....                                                             | 3  | 12,999 | 15,419  | 19,265  | 13,048 | 16,248.75   | 25,071            |
| Norwegian.....                                                          | 2  | 7,338  | 8,480   | 10,568  | 6,711  | 9,077.35    | 13,779            |
| British.....                                                            | 2  | 7,093  | 8,196   | 9,582   | 6,113  | 8,822.05    | 13,743            |
| Totals.....                                                             | 23 | 94,102 | 109,893 | 138,684 | 92,618 | 116,765.65  | 174,198           |
| <i>United States coastwise:</i>                                         |    |        |         |         |        |             |                   |
| United States.....                                                      | 23 | 94,653 | 110,899 | 139,713 | 93,903 | 118,316.25  | 129,792           |
| <i>From west coast of South America to east coast of United States:</i> |    |        |         |         |        |             |                   |
| United States.....                                                      | 8  | 20,669 | 26,263  | 34,075  | 20,810 | 25,836.25   | 32,758            |
| British.....                                                            | 3  | 7,730  | 10,683  | 14,501  | 9,527  | 9,662.50    | 7,417             |
| Japanese.....                                                           | 1  | 3,360  | 4,446   | 5,446   | 3,311  | 4,200.00    | 6,814             |
| Norwegian.....                                                          | 1  | 1,507  | 1,479   | 1,493   | 873    | 1,774.80    | 728               |
| Totals.....                                                             | 13 | 33,266 | 42,871  | 55,515  | 34,521 | 41,473.55   | 47,717            |
| <i>From Australasia to Europe:</i>                                      |    |        |         |         |        |             |                   |
| British.....                                                            | 10 | 52,511 | 60,685  | 77,220  | 48,498 | 65,276.85   | 49,427            |
| Japanese.....                                                           | 1  | 3,000  | 3,462   | 4,449   | 2,743  | 3,750.00    | 5,450             |
| Totals.....                                                             | 11 | 55,511 | 64,147  | 81,649  | 51,241 | 69,026.85   | 54,877            |
| <i>From west coast of South America to Cristobal:</i>                   |    |        |         |         |        |             |                   |
| British.....                                                            | 4  | 1,578  | 2,051   | 2,711   | 1,705  | 1,972.50    | 896               |
| Peruvian.....                                                           | 3  | 4,010  | 8,315   | 12,666  | 6,614  | 5,012.50    | 4,867             |
| Chilean.....                                                            | 2  | 3,274  | 5,759   | 6,438   | 3,852  | 4,092.50    | 1,559             |
| United States.....                                                      | 2  | 672    | 700     | 1,230   | 744    | 840.00      | 1,168             |
| Totals.....                                                             | 11 | 9,534  | 16,825  | 23,045  | 12,915 | 11,917.50   | 8,490             |
| <i>From west coast of South America to Europe:</i>                      |    |        |         |         |        |             |                   |
| British.....                                                            | 5  | 23,374 | 27,639  | 38,098  | 23,856 | 29,217.50   | 19,965            |
| Norwegian.....                                                          | 2  | 5,606  | 7,123   | 6,940   | 4,179  | 6,823.45    | 11,756            |
| French.....                                                             | 1  | 4,368  | 4,369   | 5,248   | 3,329  | 5,242.80    | 6,482             |
| Chilean.....                                                            | 1  | 2,754  | 3,442   | 5,961   | 2,981  | 3,442.50    | 3,355             |
| Dutch.....                                                              | 1  | 1,598  | 3,083   | 2,652   | 1,619  | 1,997.50    | 4,067             |
| Totals.....                                                             | 10 | 37,700 | 45,656  | 58,899  | 35,964 | 46,723.75   | 45,625            |
| <i>From Far East to east coast of United States:</i>                    |    |        |         |         |        |             |                   |
| Japanese.....                                                           | 3  | 12,458 | 15,870  | 19,893  | 12,261 | 15,572.50   | 22,224            |
| United States.....                                                      | 1  | 4,101  | 4,758   | 6,517   | 4,045  | 5,126.25    | 7,084             |
| Totals.....                                                             | 4  | 16,559 | 20,622  | 26,410  | 16,306 | 20,698.75   | 29,308            |
| <i>From Balboa, C. Z., to Mexico:</i>                                   |    |        |         |         |        |             |                   |
| United States.....                                                      | 3  | 13,234 | 15,435  | 20,650  | 12,760 | 11,113.20   |                   |
| <i>From west coast of Canada to Europe:</i>                             |    |        |         |         |        |             |                   |
| Dutch.....                                                              | 2  | 9,723  | 12,134  | 15,306  | 9,595  | 12,153.75   | 17,702            |
| <i>From Australasia to east coast of United States:</i>                 |    |        |         |         |        |             |                   |
| British.....                                                            | 2  | 3,645  | 4,514   | 5,961   | 3,852  | 4,556.25    | 1,585             |
| <i>From west coast of United States to Cristobal:</i>                   |    |        |         |         |        |             |                   |
| United States.....                                                      | 2  | 3,194  | 3,799   | 5,321   | 3,170  | 3,992.50    | 2,473             |

## PACIFIC TO ATLANTIC—Continued.

| Route and registry.                                                | No. of vessels. | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. | Tolls.     | Cargo.            |
|--------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------|-------------------|
| <i>From west coast of Central America to Cristobal:</i>            |                 |                           |                   |                   |                 |            | <i>Long tons.</i> |
| British.....                                                       | 2               | 1,288                     | 1,398             | 2,298             | 1,304           | \$1,610.00 | 1,195             |
| <i>From Balboa, C. Z., to east coast of United States:</i>         |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                 | 1               | 7,216                     | 8,063             | 9,332             | 7,071           | 5,805.36   |                   |
| <i>From west coast of United States to east coast of Mexico:</i>   |                 |                           |                   |                   |                 |            |                   |
| British.....                                                       | 1               | 4,134                     | 5,035             | 6,684             | 4,051           | 3,625.20   |                   |
| <i>From west coast of Canada to east coast of United States:</i>   |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                 | 2               | 6,026                     | 7,304             | 9,072             | 5,957           | 7,413.55   | 5,962             |
| <i>From west coast of South America to east coast of Mexico:</i>   |                 |                           |                   |                   |                 |            |                   |
| British.....                                                       | 1               | 3,391                     | 4,274             | 5,999             | 3,684           | 3,077.28   |                   |
| <i>From west coast of Central America to east coast of Mexico:</i> |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                 | 1               | 2,536                     | 2,512             | 3,185             | 2,489           | 1,902.00   |                   |
| <i>Canadian coastwise:</i>                                         |                 |                           |                   |                   |                 |            |                   |
| British.....                                                       | 1               | 1,815                     | 2,042             | 3,099             | 1,868           | 2,268.75   | 1,705             |
| <i>Colombian coastwise:</i>                                        |                 |                           |                   |                   |                 |            |                   |
| British.....                                                       | 1               | 614                       | 622               | 1,138             | 602             | 746.40     | 674               |
| <i>Local—Balboa to Cristobal:</i>                                  |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                 | 1               | 6                         | 6                 | 5                 | 3               | 4.50       |                   |
| <i>Warships:</i>                                                   |                 |                           |                   |                   |                 |            |                   |
| Spanish.....                                                       | 1               |                           |                   |                   |                 | 7,172.50   |                   |
| Totals, August, 1921....                                           | 116             | 398,147                   | 478,057           | 611,965           | 393,874         | 490,363.54 | 521,303           |
| Totals, July, 1921.....                                            | 102             | 328,109                   | 407,562           | 514,132           | 328,605         | 399,282.93 | 451,210           |
| Totals, August, 1920....                                           | 123             | 374,482                   | 458,841           | 586,398           | 374,008         | 442,790.59 | 500,786           |

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending September 3, 1921.

| Name of vessel.      | Line or charterer.               | Arrived.         | Departed.        | Cargo—     |        |
|----------------------|----------------------------------|------------------|------------------|------------|--------|
|                      |                                  |                  |                  | Discharged | Laded. |
|                      |                                  |                  |                  | Tons.      | Tons.  |
| Gen. G. W. Goethals. | Panama Railroad Steamship Line.  |                  | September 2...   |            | 2,076  |
| Caribbean.           | Panama Railroad Cattle Industry. |                  | August 30.....   |            | 244    |
| Balboa.              | Caribbean Shipping Co.           |                  | August 30.....   |            | 106    |
| Quillota.            | Pacific Steam Navigation Co.     | August 28.....   | August 30.....   | 114        | 69     |
| San Pablo.           | United Fruit Co.                 | August 28.....   | August 28.....   | 30         |        |
| San Juan.            | Pacific Mail Steamship Co.       | August 28.....   | September 2..... | 873        | 1,699  |
| Venezuela.           | Pacific Mail Steamship Co.       | August 28.....   | August 29.....   | 277        | 128    |
| Camden.              | United Fruit Co.                 | August 28.....   | August 31.....   | 7,665      |        |
| Cartago.             | United Fruit Co.                 | August 29.....   | September 1..... | 632        | 92     |
| Urubamba.            | Panama Railroad Steamship Line.  | August 29.....   | September 3..... | 239        | 126    |
| Huasco.              | United Fruit Co.                 | August 30.....   |                  | 1,024      |        |
| Orange Nassau.       | Royal West Indian Mail           | August 30.....   | August 30.....   | 173        |        |
| Pastores.            | United Fruit Co.                 | August 30.....   | August 31.....   | 357        | 342    |
| San Blas.            | United Fruit Co.                 | August 30.....   | August 31.....   | 19         | 212    |
| Atenas.              | United Fruit Co.                 | August 31.....   | August 31.....   | 241        | 5      |
| Jamaica.             | Pacific Steam Navigation Co.     | August 31.....   | September 3..... | 26         | 82     |
| Varg.                | Leyland Line.                    | September 1..... | September 2..... | 11         |        |
| Columbia.            | Pacific Mail Steamship Co.       | September 1..... | September 2..... | 96         | 245    |
| Teviot.              | Pacific Mail Steamship Co.       | September 2..... | September 2..... | 180        |        |
| Barima.              | Pacific Steam Navigation Co.     | September 2..... | September 2..... | 180        |        |
| Coronada.            | United Fruit Co.                 | September 3..... | September 3..... | 735        |        |
| Orange Nassau.       | Royal West Indian Mail           | September 3..... |                  |            |        |
| Alhauca.             | Panama Railroad Steamship Line.  | September 3..... |                  | 1,577      |        |

\*Pounds.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending September 3, 1921.

| Name of vessel. | Line or charterer.           | Arrived.         | Departed.        | Cargo—     |        |
|-----------------|------------------------------|------------------|------------------|------------|--------|
|                 |                              |                  |                  | Discharged | Laded. |
|                 |                              |                  |                  | Tons.      | Tons.  |
| San Juan.       | Pacific Mail Steamship Co.   | August 27.....   | August 28.....   | 10         | 1      |
| Venezuela.      | Pacific Mail Steamship Co.   | August 28.....   | August 28.....   | 151        | 1      |
| Romulus.        | A. O. Linvig.                | August 29.....   | August 29.....   |            | 48     |
| Quillota.       | Pacific Steam Navigation Co. | August 30.....   | August 30.....   |            | 9      |
| San Juan.       | Pacific Mail Steamship Co.   | September 2..... | September 2..... |            | 12     |
| Columbia.       | Pacific Mail Steamship Co.   | September 2..... | September 2..... | 5          | 5      |
| Jamaica.        | Pacific Steam Navigation Co. | September 3..... | September 3..... |            | 25     |
| Salvador.       | Pacific Steam Navigation Co. | September 3..... | September 3..... | 1          |        |



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Volume XV. Balboa Heights, C. Z., September 14, 1921. No. 5.

## Growth of the United States Coastwise Trade.

The rapid growth of the United States coastwise trade through the Panama Canal during recent months is indicated by a comparison of the statistics for the period of 8 months from January 1 to August 31, 1921, with those for the calendar year 1920.

| Period.                      | Atlantic to Pacific. |             | Pacific to Atlantic. |             | Total. |             |
|------------------------------|----------------------|-------------|----------------------|-------------|--------|-------------|
|                              | Ships.               | Cargo tons. | Ships.               | Cargo tons. | Ships. | Cargo tons. |
| Calendar year 1920.....      | 116                  | 416,819     | 122                  | 644,833     | 238    | 1,061,652   |
| January to August, 1921..... | 141                  | 569,300     | 123                  | 634,203     | 264    | 1,203,503   |

Both the number and ships and the cargo tonnage were greater during the first 8 months of the current year than during the entire year 1920.

## Motor Ships.

The Scandinavian nations, as is well known, have been pioneers in the development of the marine Diesel engine. The East Asiatic Co. (Denmark), the Johnson Line (Sweden), and Fred Olsen & Co. (Norway) all operate motor ships in regular service through the Panama Canal. The great majority of the motor ships using the Canal are under Scandinavian flags.

## Crude Oil Cargoes.

During the calendar year 1920, 828,223 tons of crude oil were shipped from the Mexican oil fields through the Panama Canal to the west coast of North and South America. During the first 6 months of 1921 crude oil shipments aggregated 684,227 tons. This is equivalent to a monthly average of 114,038 tons. But in July the crude oil tonnage dropped suddenly to 14,491, and the August shipments amounted to only 36,454 tons.

It is understood that this sudden decline resulted from the imposition of a higher export tax on Mexican oil, and that rather than pay the tax certain companies have temporarily stopped their shipments.

## Embargo on Alligator Pears.

The Department of Agriculture of the United States has placed an embargo on all shipments of alligator pears from the Canal Zone, from Haiti, from ports in the Caribbean and from Central America, as it is claimed that alligator pears from these localities are subject to plant disease. Shipments from Colombia are not included in this embargo provided they come direct on a bill of lading from ports in Colombia; otherwise they will be considered in the same class as the prohibited shipments.

Persons procuring alligator pears in the prohibited ports while on a voyage to the United States should dispose of them prior to the arrival of the steamer at destination.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, September 10, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.            | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.     | Length.                             |       | Salt Beam, water draft. | From— | For— | Cargo. |      | Panama Canal tonnage. |        |        |       |
|------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-----------|-------------------------------------|-------|-------------------------|-------|------|--------|------|-----------------------|--------|--------|-------|
|                  | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |           | Nature.                             | Tons. |                         |       |      | Gross. | Net. |                       |        |        |       |
| Ribera           | 3                | 15    | 58             | 4     | 6                  | 30    | 4                | 15    | 10           | British   | F. Bolton & Co.                     | 389   | 0                       | 51    | 0    | 24     | 6    | Case oil              | 5,400  | 5,469  | 4,042 |
| Lewis Luckenbach | 3                | 20    | 30             | 4     | 7                  | 00    | 4                | 15    | 54           | American  | Luckenbach Line.                    | 496   | 0                       | 68    | 0    | 18     | 0    | General               | 2,200  | 11,489 | 8,732 |
| Baja California  | 4                | 12    | 33             | 4     | 8                  | 47    | 4                | 22    | 30           | Norwegian | A. O. Lindvig                       | 265   | 0                       | 38    | 0    | 11     | 0    | Ballast               | 1,900  | 1,138  |       |
| Chas. H. Cramp   | 4                | 6     | 02             | 4     | 10                 | 02    | 4                | 19    | 50           | American  | Atl. Gulf & Pac. S. S. Co. (S. B.)  | 404   | 0                       | 53    | 0    | 19     | 3    | General               | 3,200  | 6,753  | 4,750 |
| Urubamba         | 8-29             | 20    | 15             | 4     | 11                 | 20    | 4                | 19    | 35           | Peruvian  | Peruvian Line                       | 381   | 0                       | 46    | 0    | 19     | 3    | General               | 123    | 4,803  | 2,951 |
| Mineque          | 4                | 4     | 35             | 5     | 6                  | 15    | 5                | 14    | 46           | American  | Wessel Duval & Co. (S. B.)          | 390   | 0                       | 54    | 0    | 16     | 3    | Tachuanio             | 686    | 6,106  | 4,355 |
| Ashworth         | 4                | 19    | 03             | 5     | 8                  | 15    | 5                | 15    | 22           | British   | R. S. Dalgleish                     | 400   | 0                       | 52    | 0    | 15     | 0    | Ballast               | 636    | 5,732  | 3,991 |
| Ansaldo San      |                  |       |                |       |                    |       |                  |       |              |           |                                     |       |                         |       |      |        |      |                       |        |        |       |
| Georgia III      | 4                | 18    | 30             | 6     | 6                  | 15    | 6                | 14    | 39           | Italian   | Soc. Nat. Navigation Co.            | 335   | 0                       | 49    | 0    | 16     | 0    | General               | 620    | 5,907  | 4,310 |
| Belgium Maru     | 6                | 6     | 00             | 6     | 8                  | 03    | 6                | 16    | 50           | Japanese  | Kawasaki Kisen Kaisha               | 385   | 0                       | 51    | 0    | 12     | 0    | Puget Sound           | 5,928  | 4,381  |       |
| Ravenrook        | 6                | 12    | 25             | 6     | 12                 | 40    | 6                | 20    | 11           | British   | Glover Brothers                     | 390   | 0                       | 51    | 0    | 17     | 0    | Ballast               | 5,374  | 3,783  |       |
| O-15             |                  |       |                |       |                    |       |                  |       |              | American  | United States Navy                  |       |                         |       |      |        |      |                       |        |        |       |
| O-16             |                  |       |                |       |                    |       |                  |       |              | American  | United States Navy                  |       |                         |       |      |        |      |                       |        |        |       |
| Galveston        | 6                | 16    | 23             | 7     | 6                  | 15    | 7                | 14    | 12           | American  | United States Navy                  | 398   | 0                       | 44    | 0    | 27     | 9    | Ballast               |        |        |       |
| Bessemer City    | 6                | 14    | 40             | 7     | 7                  | 20    | 7                | 15    | 10           | American  | United States Steel Products Co.    | 424   | 0                       | 56    | 0    | 27     | 0    | Steel and cotton      | 8,000  | 7,539  | 5,448 |
| Rumera           | 7                | 2     | 07             | 7     | 8                  | 45    | 7                | 16    | 08           | British   | New Zealand Shipping Co.            | 485   | 0                       | 62    | 0    | 28     | 0    | Steel rails           | 5,200  | 11,600 | 8,685 |
| Holland Maru     | 7                | 11    | 56             | 7     | 12                 | 05    | 7                | 18    | 44           | Japanese  | Kawasaki Kisen Kaisha               | 383   | 0                       | 61    | 0    | 18     | 0    | Ballast               | 5,926  | 4,434  |       |
| Kaunas           | 7                | 23    | 35             | 8     | 6                  | 30    | 8                | 14    | 22           | British   | Ellerman & Bucknell                 | 432   | 0                       | 55    | 0    | 24     | 0    | General               | 6,245  | 7,391  | 5,747 |
| Thames Maru      | 8                | 6     | 25             | 8     | 7                  | 41    | 8                | 15    | 10           | Japanese  | Kawasaki Kisen Kaisha               | 385   | 0                       | 51    | 0    | 18     | 0    | Ballast               | 5,928  | 4,381  |       |
| Arizona          | 8                | 6     | 58             | 8     | 8                  | 45    | 8                | 16    | 18           | American  | American-Hawaiian Line              | 470   | 0                       | 57    | 0    | 20     | 6    | General               | 2,307  | 9,158  | 6,970 |
| Salvador         | 8                | 21    | 05             | 8     | 10                 | 05    | 8                | 17    | 18           | British   | Pacific Steam Navigation Co.        | 215   | 0                       | 33    | 0    | 13     | 4    | General               | 302    | 1,213  | 692   |
| Inca             | 7                | 5     | 38             | 8     | 10                 | 44    | 8                | 18    | 10           | British   | Pacific Steam Navigation Co.        | 360   | 0                       | 43    | 0    | 19     | 1    | General               | 2,610  | 3,952  | 2,742 |
| Wilpolo          | 8                | 10    | 10             | 8     | 11                 | 50    | 8                | 19    | 04           | American  | Williams Steamship Co.              | 386   | 0                       | 52    | 0    | 20     | 0    | General               | 3,534  | 5,680  | 4,112 |
| Achilles         | 8                | 23    | 10             | 9     | 6                  | 40    | 9                | 14    | 33           | American  | Panama Railroad Steamship Line      | 514   | 0                       | 65    | 0    | 27     | 1    | Coal                  | 12,038 | 11,519 | 7,008 |
| Ceres            | 8                | 8     | 16             | 9     | 12                 | 38    | 9                | 19    | 06           | Dutch     | Royal Netherlands W. I. Mail        | 348   | 0                       | 48    | 0    | 13     | 3    | General               | 1,100  | 4,243  | 3,123 |
| General Getty    | 9                | 6     | 12             | 9     | 15                 | 00    | 10               | 14    | 29           | American  | United States Army                  | 450   | 0                       | 58    | 0    | 22     | 6    | General               | 816    | 9,037  | 6,089 |
| Essequibo        | 9                | 17    | 31             | 10    | 8                  | 13    | 10               | 15    | 48           | British   | Pacific Steam Navigation Co.        | 385   | 0                       | 55    | 0    | 27     | 0    | Sulphur, general      | 9,950  | 7,285  | 5,256 |
| Penney           | 2                | 18    | 15             | 10    | 9                  | 50    | 10               | 16    | 07           | British   | Isthmian Steamship Lines            | 220   | 0                       | 37    | 0    | 11     | 1    | General               | 1,651  | 1,651  | 918   |
| Barma            | 10               | 8     | 50             | 10    | 10                 | 55    | 10               | 19    | 00           | American  | N. Atl. & Western S. S. Co. (S. B.) | 390   | 0                       | 54    | 2    | 18     | 1    | General               | 1,592  | 6,106  | 4,346 |
| Lehigh           |                  |       |                |       |                    |       |                  |       |              |           |                                     |       |                         |       |      |        |      |                       |        |        |       |

• Submarine.  
• Cruiser.  
• Collier.  
• Mine planter.

\* Cruiser.

\* Submarine.

\* Collier.

\* Mine planter.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                |      |    |    |    |    |    |    |    |    |    |    |    |          |                                      |     |   |    |   |    |    |               |                |                   |       |       |       |
|----------------|------|----|----|----|----|----|----|----|----|----|----|----|----------|--------------------------------------|-----|---|----|---|----|----|---------------|----------------|-------------------|-------|-------|-------|
| La Paz         | 3    | 15 | 45 | 4  | 7  | 47 | 4  | 15 | 35 | 4  | 16 | 45 | British  | Pacific Steam Navigation Co          | 406 | 3 | 54 | 0 | 26 | 1  | Talcahuano    | Hull           | General           | 7,877 | 7,216 | 4,912 |
| Artesia        | 2    | 17 | 59 | 4  | 8  | 05 | 4  | 15 | 45 | 5  | 17 | 00 | American | United States Navy                   | 343 | 0 | 42 | 2 | 17 | 6  | Balboa        | Coco Solo      | Ballast           | 6,532 | 6,473 | 4,976 |
| West Cusseta   | 4    | 4  | 55 | 4  | 8  | 05 | 4  | 15 | 45 | 5  | 17 | 00 | American | Struthers & Dixon (S. B.)            | 410 | 0 | 54 | 4 | 23 | 5  | San Francisco | Swansea        | Barley            | 5,117 | 5,755 | 4,888 |
| Henry S. Grove | 4    | 8  | 30 | 4  | 10 | 07 | 4  | 17 | 10 | 4  | 19 | 04 | American | Atl. Gulf and Pac. S. S. Co. (S. B.) | 404 | 6 | 53 | 9 | 16 | 0  | Portland      | Baltimore      | Lumber, general   | 8,102 | 7,946 | 5,745 |
| West Farallon  | 4    | 7  | 30 | 4  | 10 | 33 | 4  | 18 | 35 | 6  | 11 | 56 | American | Williams Diamond Co. (S. B.)         | 430 | 2 | 54 | 0 | 27 | 11 | San Francisco | Antwerp        | General           | 7,600 | 7,539 | 5,448 |
| Steel Ranger   | 4    | 10 | 15 | 4  | 11 | 56 | 4  | 20 | 00 | 5  | 8  | 49 | American | United States Steel Products Co.     | 424 | 2 | 56 | 2 | 25 | 0  | Honolulu      | Baltimore      | ( <sup>c</sup> )  |       |       |       |
| Gen. H. F.     |      |    |    |    |    |    |    |    |    |    |    |    |          |                                      |     |   |    |   |    |    |               |                |                   |       |       |       |
| Hodges         | 4    | 16 | 50 | 5  | 7  | 12 | 5  | 15 | 40 | 7  | 15 | 40 | American | Panama Railroad Steamship Line       | 323 | 5 | 39 | 0 | 21 | 0  | Guayaquil     | New York       | General           | 2,126 | 3,013 | 1,574 |
| Newport        | 4    | 7  | 34 | 5  | 7  | 19 | 5  | 16 | 50 | 7  | 15 | 40 | American | Pacific Mail Steamship Co.           | 326 | 0 | 38 | 2 | 23 | 9  | San Francisco | Cristobal      | General           | 286   | 3,173 | 2,163 |
| S. C. 287      | 4    | 15 | 55 | 5  | 8  | 21 | 5  | 16 | 55 | 6  | 1  | 34 | American | Grace Steamship Co.                  | 298 | 6 | 40 | 0 | 20 | 0  | Salaverry     | New York       | General           | 1,938 | 2,835 | 1,822 |
| Vicksburg      | 5    | 16 | 30 | 6  | 7  | 10 | 6  | 13 | 45 | 11 | 19 | 30 | American | United States Navy                   | 110 | 0 | 16 | 0 | 16 | 0  | Balboa        | Cristobal      | General           |       |       |       |
| Orraga         | 6    | 6  | 30 | 6  | 9  | 31 | 6  | 16 | 25 | 6  | 20 | 18 | British  | Pacific Steam Navigation Co.         | 465 | 3 | 56 | 3 | 21 | 9  | Santiago      | Hampton R'd.   | General           | 1,907 | 8,345 | 4,998 |
| Tyne Maru      | 6    | 6  | 00 | 6  | 10 | 27 | 6  | 18 | 10 | 6  | 18 | 10 | Japanese | United States Navy                   | 385 | 0 | 51 | 0 | 26 | 0  | Talcahuano    | Liverpool      | Wheat             | 7,295 | 6,251 | 4,700 |
| Ausado IV      | 7    | 13 | 15 | 8  | 7  | 11 | 8  | 15 | 40 | 8  | 21 | 15 | Italian  | Kawasaki Dock Yrd Co.                | 377 | 0 | 51 | 0 | 25 | 6  | Valparaiso    | United King    | General           | 7,472 | 5,473 | 3,600 |
| Hualala        | 8    | 6  | 15 | 8  | 9  | 01 | 8  | 16 | 05 | 9  | 12 | 45 | British  | Societa Nazionale Nav. Co.           | 360 | 0 | 44 | 7 | 19 | 0  | Callao        | Cristobal      | ( <sup>c</sup> )  | 834   | 4,514 | 2,386 |
| Manavi         | 8    | 8  | 00 | 8  | 9  | 54 | 8  | 20 | 10 | 9  | 12 | 45 | British  | Peruvian Steamship Co.               | 216 | 0 | 35 | 1 | 14 | 9  | Guayaquil     | Cristobal      | General           | 760   | 1,357 | 584   |
| Amputaria      | 8    | 11 | 25 | 8  | 12 | 03 | 8  | 15 | 25 | 11 | 6  | 35 | British  | Pacific Steam Navigation Co.         | 412 | 0 | 53 | 3 | 25 | 0  | San Francisco | United King    | Lubricating oil   | 7,257 | 6,242 | 4,320 |
| Author         | 8    | 19 | 00 | 9  | 17 | 46 | 9  | 15 | 25 | 12 | 6  | 24 | American | Harrison Line                        | 439 | 0 | 53 | 0 | 26 | 6  | Seattle       | London         | General           | 7,800 | 6,382 | 4,614 |
| Willhilo       | 9    | 1  | 00 | 9  | 8  | 56 | 9  | 15 | 25 | 12 | 10 | 30 | American | Williams Steamship Co.               | 434 | 2 | 57 | 7 | 27 | 6  | Seattle       | New York       | General           | 9,754 | 7,983 | 5,882 |
| Balboa         | 9    | 8  | 40 | 9  | 9  | 58 | 9  | 15 | 25 | 12 | 10 | 30 | American | Colombian Maritime Co.               | 190 | 0 | 29 | 1 | 15 | 0  | Buenaventura  | Cristobal      | General           | 585   | 741   | 350   |
| S. C. 284      | 7-28 | 14 | 48 | 9  | 9  | 09 | 9  | 17 | 15 | 10 | 16 | 0  | American | United States Navy                   | 110 | 0 | 16 | 0 | 16 | 0  | Balboa        | Cristobal      | Ballast           |       |       |       |
| Solana         | 8-25 | 16 | 25 | 10 | 6  | 49 | 10 | 14 | 30 | 10 | 18 | 07 | American | Pacific Mail Steamship Co.           | 419 | 5 | 56 | 6 | 18 | 0  | Iquique       | Tampico        | Ballast           | 7,043 | 5,041 |       |
| Grelise        | 9    | 15 | 00 | 10 | 7  | 40 | 10 | 15 | 00 | 11 | 6  | 30 | British  | Gould Steamship Industrials          | 490 | 0 | 52 | 4 | 25 | 0  | San Francisco | Ipswich        | Barley            | 7,035 | 5,671 | 4,017 |
| Denver         | 8-27 | 16 | 09 | 10 | 8  | 30 | 10 | 15 | 28 | 10 | 18 | 00 | American | United States Navy                   | 292 | 0 | 44 | 0 | 17 | 0  | Balboa        | Puerto Barrios | General           |       |       |       |
| Nashaba        | 9    | 18 | 55 | 10 | 8  | 48 | 10 | 16 | 55 | 11 | 13 | 40 | American | McCormick & McPherson (S. B.)        | 402 | 5 | 53 | 0 | 26 | 2  | Portland      | Limerick       | Wheat, flour      | 7,612 |       |       |
| Yorba Linda    | 10   | 1  | 30 | 10 | 9  | 34 | 10 | 16 | 55 | 11 | 13 | 40 | American | General Petroleum Corporation        | 435 | 0 | 56 | 2 | 18 | 6  | Los Angeles   | Tampico        | Ballast           |       |       |       |
| Springfield    | 10   | 6  | 30 | 10 | 9  | 45 | 10 | 17 | 45 | 11 | 7  | 26 | American | N. Atl. & West. S. Co. (S. B.)       | 410 | 5 | 54 | 2 | 26 | 0  | Seattle       | Boston         | ( <sup>10</sup> ) | 4,054 | 6,576 | 4,971 |
| Narcissus      | 10   | 9  | 30 | 10 | 11 | 11 | 10 | 19 | 30 | 11 | 2  | 15 | American | McCormick & McPherson (S. B.)        | 402 | 6 | 55 | 0 | 26 | 6  | San Francisco | Hull           | Barley            | 7,551 | 6,579 | 4,846 |
| Laura C. Hall  | 10   | 2  | 30 | 10 | 14 | 09 | 10 | 21 | 37 | 12 | 6  | 10 | British  | Pacific Metals Corporation           | 81  | 0 | 25 | 0 | 10 | 0  | Buenaventura  | Cristobal      | Coffee, specie    | 71    | 133   | 72    |

\* Motor ship.

\* Coast Guard cutter.

\* 130,000 feet B. M.

\* Case pineapples.

\* Copper, cotton, hides, etc.

\* Shingles and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |           |                                  |                 | *DEPARTURES. |                    |                                 |                          |
|------------|-----------|----------------------------------|-----------------|--------------|--------------------|---------------------------------|--------------------------|
| Date.      | Vessel.   | Line.                            | From—           | Date.        | Vessel.            | Line.                           | For—                     |
| Sept. 4    | Abangarez | United Fruit Co.                 | New Orleans.    | Sept. 4      | Oranjo Nassau      | Royal Netherlands W. I. Mail.   | Amsterdam                |
| Sept. 4    | Caribbean | Panama Railroad Cattle Industry. | Carlaena.       | Sept. 4      | Abangarez          | United Fruit Co.                | Bocas del Toro.          |
| Sept. 5    | Parissima | United Fruit Co.                 | New Orleans.    | Sept. 5      | Tevitanga          | Royal Mail Steam Packet Co.     | Carlaena.                |
| Sept. 6    | Asian     | Leyland Line                     | Liverpool       | Sept. 7      | Gen. H. F. Hodges. | Panama Railroad Steamship Line. | New York via Haiti.      |
| Sept. 6    | Ulua      | United Fruit Co.                 | New York        | Sept. 7      | Abangarez          | United Fruit Co.                | New Orleans.             |
| Sept. 7    | Abangarez | United Fruit Co.                 | Bocas del Toro. | Sept. 7      | Ulua               | United Fruit Co.                | New York via Port Limon. |

(Continued on page 76, column 2.)



### Cargo Shipped Through the Canal during Fiscal Year between Principal Trade Areas.

The most important trade route through the Panama Canal in the fiscal year ending June 30, 1921, on the basis of total cargo shipped, was that between the Atlantic coast of the United States and the west coast of South America. Of the total of 11,599,214 tons of goods shipped through the Canal during the year, 1,908,858 tons were moving over this route. This was 16.46 per cent, approximately one-sixth, of the total cargo handled. Shipments from the United States to the west coast of South America were 933,261 tons; and from the west coast to the United States, 975,597 tons.

The heaviest shipments one way over any route, however, were those from the Atlantic coast of the United States to the Far East. They amounted to 1,213,906 tons, over one-tenth of all the cargo handled. But return shipments over this route amounted to only 428,044 tons; the total moving between the areas by way of the Canal was accordingly, 1,641,950 tons, which was less than the total movement between the east coast of the United States and the west coast of South America. The combined United States-Far East cargo movement through the Canal, 1,641,950 tons, was 14.15 per cent, or slightly less than one-seventh of the total cargo passing through the Canal in the period.

United States coastwise traffic was third in importance, in total quantity of cargo handled both ways. The combined shipments amounted to 1,372,388 tons, of which 698,429 tons were shipped from Atlantic to Pacific and 673,959 tons from Pacific to Atlantic. The total was 11.83 per cent, over one-ninth of all cargo carried through the Canal during the year.

The route fourth in quantity of total cargo was that between the west coast of the United States and Europe, and the fifth was that between the west coast of South America and Europe. The figures for these routes, as well as for the others by which cargo was classified, are presented in the following table:

COMMERCIAL TRAFFIC THROUGH THE PANAMA CANAL DURING THE FISCAL YEAR 1921, BOTH WAYS, OVER PRINCIPAL TRADE ROUTES.

| Route.                                                                | Direction. | Number of ships. | Panama Canal net tonnage. | Tons of cargo. |
|-----------------------------------------------------------------------|------------|------------------|---------------------------|----------------|
| Between east coast of United States and west coast of South America.. | A. to P.   | 253              | 837,254                   | 933,261        |
|                                                                       | P. to A.   | 239              | 778,868                   | 975,597        |
| Total.....                                                            |            | 492              | 1,616,122                 | 1,908,858      |
| Between east coast of United States and Far East.....                 | A. to P.   | 187              | 915,720                   | 1,213,906      |
|                                                                       | P. to A.   | 74               | 351,904                   | 428,044        |
| Total.....                                                            |            | 261              | 1,267,624                 | 1,641,950      |
| United States coastwise.....                                          | A. to P.   | 177              | 783,420                   | 698,429        |
|                                                                       | P. to A.   | 145              | 647,557                   | 673,959        |
| Total.....                                                            |            | 322              | 1,430,977                 | 1,372,388      |
| Between west coast of United States and Europe.....                   | A. to P.   | 80               | 353,028                   | 144,591        |
|                                                                       | P. to A.   | 158              | 782,117                   | 1,154,840      |
| Total.....                                                            |            | 238              | 1,165,145                 | 1,299,431      |
| Between west coast of South America and Europe.....                   | A. to P.   | 136              | 533,323                   | 297,166        |
|                                                                       | P. to A.   | 178              | 743,148                   | 922,499        |
| Total.....                                                            |            | 314              | 1,276,471                 | 1,219,665      |



| Route.                                                            | Direction.           | Number of ships. | Panama Canal net tonnage.            | Tons of cargo.         |
|-------------------------------------------------------------------|----------------------|------------------|--------------------------------------|------------------------|
| Between Australasia and Europe.....                               | A. to P.<br>P. to A. | 72<br>100        | 489,763<br>701,530                   | 391,848<br>579,745     |
| Total.....                                                        |                      | 172              | 1,191,293                            | 971,593                |
| Between east coast of United States and Australasia.....          | A. to P.<br>P. to A. | 90<br>27         | 476,854<br>156,283                   | 620,428<br>147,877     |
| Total.....                                                        |                      | 117              | 633,137                              | 768,305                |
| Between east coast of Mexico and west coast of South America..... | A. to P.<br>P. to A. | 77<br>79         | 383,466<br>400,455                   | 654,659<br>230         |
| Total.....                                                        |                      | 156              | 783,921                              | 654,889                |
| Between east coast of Mexico and west coast of United States..... | A. to P.<br>P. to A. | 27<br>40         | 143,046<br>204,977                   | 261,205<br>8,155       |
| Total.....                                                        |                      | 67               | 348,023                              | 269,360                |
| Between Cristobal, C. Z., and west coast of South America.....    | A. to P.<br>P. to A. | 151<br>155       | 228,108<br>237,486                   | 85,100<br>139,547      |
| Total.....                                                        |                      | 306              | 465,594                              | 224,737                |
| Miscellaneous trade routes and sailings.....                      | A. to P.<br>P. to A. | 207<br>224       | 566,920<br>670,649                   | 591,395<br>676,643     |
| Total.....                                                        |                      | 431              | 1,237,569                            | 1,268,038              |
| Battleships, cruisers, etc., other than United States.....        | A. to P.<br>P. to A. | 14<br>2          | ( <sup>1</sup> )<br>( <sup>2</sup> ) | .....<br>.....         |
| Total.....                                                        |                      | 16               | ( <sup>3</sup> )                     | .....                  |
| Grand totals.....                                                 | A. to P.<br>P. to A. | 1,471<br>1,421   | 5,740,902<br>5,674,974               | 5,892,078<br>5,707,136 |
|                                                                   |                      | 2,892            | 11,415,876                           | 11,599,214             |

A. to P.—Atlantic to Pacific. P. to A.—Pacific to Atlantic.

<sup>1</sup> Panama Canal net tonnage unavailable; displacement tonnage aggregated 87,473.

<sup>2</sup> Panama Canal net tonnage unavailable; displacement tonnage aggregated 36,888.

<sup>3</sup> Total displacement tonnage of 124,361.

The preponderance of cargo movement in one direction over some of the routes is striking, notably in the traffic between the Atlantic coast of the United States and the Far East, and between Europe and the west coast of both North and South America. The movements from Atlantic to Pacific, and those from Pacific to Atlantic, are shown separately in order of quantity in the tables following, which also state the percentage of cargo which moved over each route:

COMMERCIAL TRAFFIC THROUGH THE PANAMA CANAL DURING THE FISCAL YEAR, 1921, BY TRADE ROUTES.  
ATLANTIC TO PACIFIC.

|                                                                 | Number of ships. | Panama Canal net tonnage. | Tons cargo. | Percentage of cargo. |                  |
|-----------------------------------------------------------------|------------------|---------------------------|-------------|----------------------|------------------|
|                                                                 |                  |                           |             | Atlantic to Pacific. | Both directions. |
| East coast of United States to Far East.....                    | 187              | 915,720                   | 1,213,906   | 20.60                | 10.46            |
| East coast of United States to west coast of South America..... | 253              | 837,254                   | 933,261     | 15.84                | 8.05             |
| United States coastwise.....                                    | 177              | 783,420                   | 698,429     | 11.85                | 6.02             |
| East coast of Mexico to west coast of South America.....        | 77               | 383,466                   | 654,659     | 11.11                | 5.64             |
| East coast of United States to Australasia.....                 | 90               | 476,854                   | 620,428     | 10.53                | 5.35             |
| Europe to Australasia.....                                      | 72               | 489,763                   | 301,848     | 6.65                 | 3.38             |
| Europe to west coast of South America.....                      | 136              | 533,323                   | 297,166     | 5.04                 | 2.56             |
| Mexico to west coast of United States.....                      | 27               | 143,046                   | 261,205     | 4.44                 | 2.25             |
| Europe to west coast of United States.....                      | 80               | 383,028                   | 144,591     | 2.46                 | 1.25             |
| Cristobal to west coast of South America.....                   | 151              | 228,108                   | 85,100      | 1.45                 | 0.74             |
| East coast of United States to west coast of Canada.....        | 13               | 59,598                    | 82,827      | 1.40                 | 0.72             |
| East coast of United States to Balboa, C. Z.....                | 7                | 42,531                    | 69,128      | 1.17                 | 0.60             |
| Cristobal, C. Z., to west coast of United States.....           | 24               | 43,578                    | 32,048      | 0.54                 | 0.27             |
| Cristobal, C. Z., to west coast of Central America.....         | 32               | 21,013                    | 15,227      | 0.26                 | 0.13             |
| West Indies to west coast of United States.....                 | 4                | 10,931                    | 3,466       | 0.06                 | 0.03             |
| West Indies to west coast of South America.....                 | 4                | 5,261                     | 2,512       | 0.04                 | 0.02             |
| Miscellaneous trade routes.....                                 | 123              | 384,008                   | 386,187     | 6.55                 | 3.33             |
| Warships, cruisers, etc., other than United States.....         | 14               | ( <sup>1</sup> )          | .....       | .....                | .....            |
| Totals.....                                                     | 1,471            | 5,740,902                 | 5,892,078   | 100.00               | 50.80            |

<sup>1</sup> Displacement tonnage of 87,473.

## PACIFIC TO ATLANTIC.

|                                                                   | Number of ships. | Panama Canal net tonnage. | Tons of cargo. | Percentage of cargo. |                  |
|-------------------------------------------------------------------|------------------|---------------------------|----------------|----------------------|------------------|
|                                                                   |                  |                           |                | Pacific to Atlantic. | Both directions. |
| West coast of United States to Europe.....                        | 158              | 782,117                   | 1,154,840      | 20.23                | 9.96             |
| West coast of South America to east coast of United States.....   | 239              | 778,868                   | 975,597        | 17.09                | 8.41             |
| West coast of South America to Europe.....                        | 178              | 743,148                   | 922,499        | 16.16                | 7.95             |
| United States coastwise.....                                      | 145              | 647,557                   | 673,959        | 11.81                | 5.81             |
| Australasia to Europe.....                                        | 100              | 701,530                   | 579,745        | 10.16                | 5.00             |
| Far East to east coast of United States.....                      | 74               | 351,904                   | 428,044        | 7.50                 | 3.69             |
| West coast of Canada to Europe.....                               | 22               | 103,234                   | 154,513        | 2.71                 | 1.33             |
| Australasia to east coast of United States.....                   | 27               | 156,283                   | 147,877        | 2.59                 | 1.28             |
| West coast of South America to Cristobal, C. Z.....               | 155              | 237,486                   | 139,647        | 2.45                 | 1.20             |
| West coast of South America to Azore Islands.....                 | 17               | 59,910                    | 106,910        | 1.87                 | 0.92             |
| West coast of South America to West Indies.....                   | 12               | 30,696                    | 47,989         | 0.84                 | 0.42             |
| West coast of Central America to Cristobal, C. Z.....             | 39               | 25,733                    | 17,378         | 0.31                 | 0.15             |
| West coast of United States to Cristobal, C. Z.....               | 23               | 41,976                    | 14,578         | 0.26                 | 0.13             |
| West coast of United States to east coast of Mexico.....          | 40               | 204,977                   | 8,155          | 0.15                 | 0.07             |
| West coast of Central America to east coast of United States..... | 4                | 3,214                     | 1,431          | 0.03                 | 0.01             |
| West coast of South America to east coast of Mexico.....          | 79               | 400,455                   | 230            |                      |                  |
| Balboa, C. Z., to east coast of United States.....                | 9                | 51,448                    |                |                      |                  |
| Balboa, C. Z., to east coast of Mexico.....                       | 9                | 46,972                    |                |                      |                  |
| Miscellaneous trade routes.....                                   | 89               | 307,466                   | 333,844        | 5.85                 | 2.87             |
| Warships, cruisers, etc., other than United States.....           | 2                | (*)                       |                |                      |                  |
| Totals.....                                                       | 1,421            | 5,674,974                 | 5,707,136      | 100.00               | 49.20            |

## COMPARISON WITH CALENDAR YEAR 1920.

In the calendar year ending December 31, 1920, the total cargo carried through the Canal was 11,236,119 tons of cargo. The 11,599,214 tons passing through the Canal in the last fiscal year were 363,085 tons more than during the calendar year, a gain of 3.2 per cent.

In the calendar year the leading route was, as in the fiscal year, that between the United States and South America, with a total of 2,341,242 tons; and second place was held by the traffic between the United States and the Far East, aggregating 1,827,913 tons.

Third place, however, which had been held by the traffic between Europe and South America in the calendar year 1920, was taken in the fiscal year by the United States coastwise trade. The Europe-South America traffic decreased from 1,322,623 tons to 1,219,665, while the United States coastwise trade increased from 1,061,652 to 1,372,388 tons. The Europe-South America traffic occupied fifth place in the fiscal year 1921. The fourth place was taken by the trade between Europe and the west coast of the United States, with 1,299,431 tons. The latter route was fifth in the calendar year, with 859,848 tons.

The route between Australasia and Europe occupied sixth place in both the calendar and fiscal years. The tonnage of cargo moving over it in the calendar year was 770,403 tons. For the fiscal year it was 971,593 tons.

## ORIGIN AND DESTINATION OF ALL CARGO.

In connection with the statistics of traffic by trade routes, there has been compiled a briefer, summarizing tabulation (presented on pages 72 and 73) which shows the aggregate quantities shipped from the principal areas and distributed to principal areas.

There is an apparent discrepancy between this tabulation and the trade route tables, in that a greater quantity of cargo is shown as originating in the east coast of the United States, for example, than the sum of the shipments from the east coast of the United States

\* For orders.

\* Displacement tonnage of 36,888; Panama Canal net tonnage unavailable.

shown in the trade route table. This is because certain miscellaneous shipments were not of sufficient quantity to be given a separate trade-route classification. In the case of the shipments from the Atlantic coast of the United States, totaling 3,712,029 tons in the fiscal year, the trade route classifications embraced a total of 3,617,979 tons, shown definitely from the United States to specified areas, and 94,050 tons not routed on any of the classified routes were included as "miscellaneous."

#### ATLANTIC TO PACIFIC.

The summary by origin and destination shows that of a total of 5,892,078 tons of cargo passing through the Canal from Atlantic to Pacific in the fiscal year, 3,712,029 tons, or 63 per cent, originated in the United States; 1,071,782 tons, 18.2 per cent, in Mexico; 545,419 tons, 9.3 per cent, in the British Isles; 262,926 tons, 2.3 per cent, in other parts of Europe, and smaller quantities in other areas.

Of the 5,892,078 tons passing from Atlantic to Pacific, 32.9 per cent went to the west coast of South America, 22.3 per cent to the Far East, 20 per cent to the west coast of the United States, 18.4 per cent to Australasia, and small quantities to the other areas shown in the table.

#### PACIFIC TO ATLANTIC.

The total cargo movement from Pacific to Atlantic during the year amounted to 5,707,136 tons. Of this quantity, 40 per cent originated on the west coast of South America, 34.1 per cent on the west coast of the United States, 12.7 per cent in Australasia, 8.9 per cent in the Far East, and smaller proportions as shown in the table.

Of those 5,707,136 tons from Pacific to Atlantic, 39.4 per cent was destined to the east coast of the United States, 30.9 per cent to the United Kingdom, 19.6 per cent to other parts of Europe; and the remaining 10.1 per cent was distributed as shown.

#### COMBINED ORIGINS.

The total quantity of cargo handled in both directions was 11,599,214 tons. In shipping 3,712,029 tons of that from Atlantic to Pacific and 1,948,848 of that from Pacific to Atlantic, the United States was the country of origin of a total of 5,660,877 tons, or 48.8 per cent, of the total cargo shipped.

South America shipped 2,280,593 tons from her west coast and 27,507 tons from her east coast through the Canal; a total of 2,308,100 tons, or approximately 20 per cent of the aggregate movement.

Canada shipped 39,561 tons through the Canal from her east coast and 125,638 tons from her west coast, aggregating 165,199 tons, or 1.4 per cent of all shipments.

Mexico shipped 1,071,782 tons from her east coast through the Canal, but such shipments as came from her west coast were bulked with those from the west coast of Central America, which amounted to 49,265 tons. Total shipments from Mexico were about 9.4 per cent of the grand total.

No other areas classified sent cargo through the Canal in both directions.

#### RECEIPTS OF CARGO.

With respect to the receipt of the total of 11,599,214 tons which made up the traffic in both directions, the Atlantic coast of the United

States was the destination of 2,248,843 tons and the Pacific coast of 1,176,424 tons, a total of 3,425,267 tons. This was 29.5 per cent of the total handled.

South America received 1,938,542 tons on the west coast, and any receipts on the east coast through the Canal were not classified. South America was the destination of about 16.7 per cent of all the cargo, approximately one-sixth of the total shipments through the Canal.

Canada received 126,414 tons on the west coast and 16,558 tons on the east coast, through the Canal. The total, 142,972 tons, was 1.2 per cent of the total movement. The receipts in Mexico are not classified separately and no other classified areas received cargo from both directions through the Canal.

#### COMBINED SHIPMENTS AND RECEIPTS.

The United States, through originating or receiving cargo (doing both, of course, in the case of the 1,372,388 tons handled in the United States coastwise trade), participated in the handling of 9,086,144 tons. Similarly, South America either shipped or received a total of 4,246,642 tons. Canada was concerned in the handling of 308,171 tons. The total in which Mexico was concerned was 1,071,782 tons, as far as classified.

Of those countries or areas not so situated as to receive cargo passing through the Canal in both directions, the United Kingdom, despatching 545,419 tons and receiving 1,763,431 tons, participated in the handling of a total of 2,308,850 tons through the Canal; other European countries, despatching 262,926 tons and receiving 1,116,115 tons, were interested in a total of 1,379,041 tons. The West Indies shipped 92,667 tons through the Canal and received 136,334 tons, a total of 229,001.

On the Pacific side, shipments to the Far East through the Canal were 1,311,641 tons, and from it, 506,072 tons, a total of 1,817,713 tons. Shipments to Australasia amounted to 1,081,875 tons, and shipments from that area to 726,949 tons, a total of 1,808,824 tons.

Summaries for the lesser areas may be made from the tables.

#### Danish Shipping and the Panama Canal.<sup>1</sup>

Danish shipping through the Panama Canal, like Norwegian, was heaviest during the latter years of the war. During the fiscal year ending June 30, 1918, Danish vessels making the transit numbered 100. In the following year there were 79, and in the year after that only 9. The fiscal year 1921 showed a total of 60 transits. These fluctuations are shown in greater detail in the table below:

| Fiscal year. | Atlantic to Pacific. | Pacific to Atlantic. | Total. |
|--------------|----------------------|----------------------|--------|
| 1915.....    | 10                   | 13                   | 23     |
| 1916.....    | 10                   | 8                    | 18     |
| 1917.....    | 26                   | 17                   | 43     |
| 1918.....    | 44                   | 56                   | 100    |
| 1919.....    | 37                   | 42                   | 79     |
| 1920.....    | 4                    | 5                    | 9      |
| 1921.....    | 28                   | 32                   | 60     |
| Totals.....  | 159                  | 173                  | 332    |

<sup>1</sup> This is the fifth of a series of articles on trade through the Panama Canal under different national flags. Those previously published concerned American, British, Japanese, and Norwegian shipping.



The majority of the 60 Danish vessels passing the Canal during the past year were either in the trade between Europe and the Pacific coast of North America or in the trade between the Atlantic coast of the United States and the west coast of South America. However, there were a few ships in other trades. An exact analysis shows the following:

DANISH SHIPPING USING THE PANAMA CANAL DURING THE FISCAL YEAR, 1921; SEGREGATION BY TRADE ROUTES.

|                                                                 | Vessels. | Cargo tons. |
|-----------------------------------------------------------------|----------|-------------|
| East coast of United States to west coast of South America..... | 14       | 73,902      |
| West coast of South America to east coast of United States..... | 7        | 41,563      |
| Europe to west coast of South America.....                      | 4        | 14,481      |
| West coast of South America to Europe.....                      | 9        | 46,275      |
| Europe to west coast of North America.....                      | 8        | 14,481      |
| West coast of North America to Europe.....                      | 9        | 73,392      |
| East coast of United States to Balboa.....                      | 1        | 5,532       |
| Far East to Europe.....                                         | 4        | 35,493      |
| Australasia to Europe.....                                      | 2        | 15,895      |
| West coast of South America to West Indies.....                 | 1        | 945         |
| East coast of United States to west coast of United States..... | 1        |             |
| Totals.....                                                     | 60       | 322,059     |

\* Total includes 1 vessel in ballast.

The 14 vessels southbound from the United States to the west coast of South America and the 1 vessel from the United States to Balboa all carried coal from Chesapeake Bay, and the 7 vessels northbound from South America to the United States carried nitrate cargoes. Five of the 9 vessels northbound from South America to Europe also carried nitrate cargoes. Two vessels from the Pacific coast of North America carried wheat. There was 1 cargo of wheat and beans from the Far East, and 1 of wheat and copra from Australasia. All other cargoes were reported as general.

The following Danish owners were represented: East Asiatic Co., with 24 transits; Orient Steamship Co., 11; United Steamship Co., 10; A. P. Moller, 6; C. K. Hansen, 4; Atlanterhavet Steamship Co., 3; Th. Just, 1; South Holland Shipping Co., 1.

### Traffic of Commercial Ships of Various Nationalities by Fiscal Years.

Summaries of the traffic of commercial vessels of various nationalities through the Canal, by fiscal years, to the close of the fiscal year ending June 30, 1921, are presented in the following tables. The tables show, in order, the number of such vessels in each year; their aggregate net tonnage, Panama Canal measurement; and the aggregate cargo carried through the Canal on the ships.

In the table of number of vessels, warships of foreign nations are included, as they pay tolls; but in the summary of net tonnage their displacement is not included with the net tonnage.

Number of Commercial Vessels by Nationality Passing Through the Panama Canal from its Opening to June 30, 1921, by Fiscal Years.

| Nationality.     | 1915. | 1916. | 1917. | 1918. | 1919. | 1920. | 1921. | Total. |
|------------------|-------|-------|-------|-------|-------|-------|-------|--------|
| Argentinian..... |       | 1     |       | 1     |       |       |       | 2      |
| Belgian.....     |       |       |       |       | 1     | 3     | 2     | 4      |
| Brazilian.....   |       |       |       |       |       | 3     | 1     | 4      |
| British.....     | 465   | 358   | 780   | 702   | 607   | 753   | 972   | 4,637  |
| Chilean.....     | 35    | 33    | 99    | 96    | 93    | 79    | 63    | 498    |
| Chinese.....     |       |       |       | 2     | 4     | 2     | 4     | 12     |
| Colombian.....   |       |       |       |       | 1     | 1     |       | 2      |
| Costa Rican..... |       |       | 23    | 19    | 12    | 1     | 16    | 71     |

**Number of Commercial Vessels by Nationality Passing Through the Panama Canal from its Opening to June 30, 1921, by Fiscal Years.—Continued.**

| Nationality.       | 1915. | 1916. | 1917. | 1918. | 1919. | 1920. | 1921. | Total. |
|--------------------|-------|-------|-------|-------|-------|-------|-------|--------|
| Cuban.....         |       |       | 6     |       |       |       | 1     | 7      |
| Danish.....        | 24    | 18    | 43    | 100   | 79    | 9     | 60    | 333    |
| Dutch.....         | 7     | 15    | 74    | 48    | 19    | 29    | 50    | 242    |
| Ecuadorian.....    |       |       |       |       | 1     |       |       | 1      |
| Finnish.....       |       |       |       |       |       |       | 2     | 2      |
| French.....        | 3     | 1     | 9     | 52    | 104   | 50    | 44    | 273    |
| German.....        |       |       |       |       |       | 17    | 19    | 36     |
| Greek.....         |       |       |       | 2     | 3     |       |       | 5      |
| Honduran.....      | 3     | 3     |       |       |       |       |       | 6      |
| Italian.....       | 2     | 1     | 2     | 4     |       | 26    | 25    | 60     |
| Japanese.....      | 6     | 24    | 72    | 54    | 87    | 118   | 136   | 497    |
| Jugo-Slovak.....   |       |       |       |       |       |       | 2     | 2      |
| Mexican.....       |       |       | 13    | 1     | 1     |       | 4     | 19     |
| Nicaraguan.....    | 1     |       | 2     |       |       |       |       | 3      |
| Norwegian.....     | 42    | 44    | 145   | 296   | 128   | 106   | 140   | 901    |
| Panamanian.....    | 1     | 3     | 5     | 2     |       | 4     | 8     | 23     |
| Peruvian.....      | 4     | 30    | 86    | 83    | 64    | 75    | 60    | 402    |
| Portuguese.....    |       |       |       |       |       | 2     | 2     | 2      |
| Russian.....       | 6     | 1     | 2     | 3     | 3     | 2     | 4     | 21     |
| Spanish.....       |       |       | 20    | 11    | 5     | 41    | 44    | 121    |
| Swedish.....       | 17    | 13    | 18    | 26    | 27    | 19    | 25    | 145    |
| United States..... | 459   | 213   | 404   | 567   | 784   | 1,129 | 1,210 | 4,766  |
| Uruguayan.....     |       |       |       |       | 1     | 1     |       | 2      |
| Totals.....        | 1,075 | 758   | 1,803 | 2,069 | 2,024 | 2,478 | 2,892 | 13,099 |

**The Panama Canal Net Tonnage of Commercial Vessels by Nationality Passing Through the Panama Canal from its Opening to June 30, 1921, by Fiscal Years.**

| Nationality.       | 1915.     | 1916.     | 1917.     | 1918.            | 1919.            | 1920.     | 1921.      | Total.     |
|--------------------|-----------|-----------|-----------|------------------|------------------|-----------|------------|------------|
| Argentinian.....   |           | 2,335     |           | ( <sup>1</sup> ) |                  |           |            | 2,335      |
| Belgian.....       |           |           |           |                  | 265              | 266       | 8,092      | 8,623      |
| Brazilian.....     |           |           |           |                  |                  | 19,164    | 4,566      | 23,730     |
| British.....       | 1,630,833 | 1,161,097 | 2,663,250 | 2,529,203        | 1,915,744        | 2,760,188 | 3,978,329  | 16,638,644 |
| Chilean.....       | 94,638    | 91,243    | 265,210   | 254,841          | 253,561          | 212,000   | 159,727    | 1,331,220  |
| Chinese.....       |           |           |           | 7,799            | 15,204           | 7,799     | 12,098     | 42,900     |
| Colombian.....     |           |           |           |                  | 66               | 95        |            | 161        |
| Costa Rican.....   |           |           | 1,909     | 1,577            | 995              | 25        | 2,784      | 7,290      |
| Cuban.....         |           |           | 9,292     |                  |                  |           | 702        | 9,994      |
| Danish.....        | 92,537    | 68,011    | 163,882   | 272,946          | 213,534          | 32,221    | 236,512    | 1,079,643  |
| Dutch.....         | 21,075    | 39,642    | 260,500   | 197,627          | 88,299           | 152,535   | 248,801    | 1,008,479  |
| Ecuadorian.....    |           |           |           |                  | 66               |           |            | 66         |
| Finnish.....       |           |           |           |                  |                  |           | 4,281      | 4,281      |
| French.....        | 10,703    | 4,343     | 38,889    | 147,805          | 253,774          | 114,664   | 155,889    | 726,067    |
| German.....        |           |           |           |                  |                  | 52,755    | 67,334     | 120,089    |
| Greek.....         |           |           |           | 6,572            | 8,003            |           |            | 14,575     |
| Honduran.....      | 122       | 484       |           |                  |                  |           |            | 606        |
| Italian.....       | 4,158     | 3,861     | 6,430     | 17,218           |                  | 98,692    | 102,783    | 233,142    |
| Japanese.....      | 24,897    | 81,818    | 291,500   | 238,814          | 341,064          | 515,243   | 613,245    | 2,106,581  |
| Jugo-Slovak.....   |           |           |           |                  |                  |           | 4,508      | 4,508      |
| Mexican.....       |           |           | 24,446    | 229              | 113              |           | 5,032      | 29,820     |
| Nicaraguan.....    | 46        |           | 1,598     |                  |                  |           |            | 1,644      |
| Norwegian.....     | 130,776   | 172,459   | 490,534   | 876,024          | 497,555          | 397,632   | 548,227    | 3,113,207  |
| Panamanian.....    | 15        | 439       | 160       | 60               |                  | 1,007     | 1,370      | 3,051      |
| Peruvian.....      | 9,403     | 74,429    | 218,593   | 208,958          | 166,956          | 191,689   | 157,495    | 1,027,523  |
| Portuguese.....    |           |           |           |                  |                  | 9,002     |            | 9,002      |
| Russian.....       | 22,400    | 1,475     | 4,546     | 5,700            | 5,699            | 6,093     | 11,279     | 57,192     |
| Spanish.....       |           |           | 49,124    | 24,469           | 11,066           | 106,651   | 117,400    | 308,710    |
| Swedish.....       | 50,824    | 41,537    | 69,202    | 80,191           | 95,684           | 76,825    | 113,661    | 527,924    |
| United States..... | 1,700,145 | 652,989   | 1,239,492 | 1,704,040        | 2,257,342        | 3,791,088 | 4,861,761  | 16,206,857 |
| Uruguayan.....     |           |           |           |                  | ( <sup>2</sup> ) | 410       |            | 410        |
| Totals.....        | 3,792,572 | 2,396,162 | 5,798,557 | 6,574,073        | 6,124,990        | 8,546,044 | 11,415,876 | 44,648,274 |

<sup>1</sup> Argentinian Navy school ship of 2,187 tons displacement.

<sup>2</sup> Uruguayan cruiser of 3,100 tons displacement.

**Tons of Cargo Carried by Commercial Vessels Passing Through the Panama Canal from its Opening to June 30, 1921, by Fiscal Years.**

| Nationality.   | 1915.     | 1916.     | 1917.     | 1918.     | 1919.     | 1920.     | 1921.     | Total.     |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Belgian.....   |           |           |           |           | 464       | 406       | 12,700    | 13,570     |
| Brazilian..... |           |           |           |           |           | 8,916     | 6,700     | 15,616     |
| British.....   | 2,200,514 | 1,570,660 | 3,393,750 | 2,615,675 | 1,876,939 | 2,830,268 | 3,738,257 | 18,226,063 |
| Chilean.....   | 50,879    | 53,573    | 184,446   | 153,259   | 161,340   | 104,738   | 61,737    | 769,972    |
| Chinese.....   |           |           |           | 13,417    | 13,421    | 13,700    | 14,400    | 54,938     |

Tons of Cargo Carried by Commercial Vessels Passing through the Panama Canal from its Opening to June 30, 1921, by Fiscal Years.—Continued.

| Nationality.       | 1915.     | 1916.     | 1917.     | 1918.     | 1919.     | 1920.     | 1921.      | Total.     |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| Colombian.....     |           |           |           |           |           | 27        |            | 27         |
| Costa Rican.....   |           |           | 3,069     | 2,091     | 1,137     |           | 2,112      | 8,409      |
| Cuban.....         |           |           | 7,370     |           |           |           | 1,200      | 8,570      |
| Danish.....        | 116,603   | 94,950    | 242,567   | 420,063   | 325,277   | 42,533    | 322,059    | 1,564,052  |
| Dutch.....         | 26,402    | 61,959    | 314,203   | 233,063   | 119,297   | 128,442   | 216,488    | 1,099,854  |
| Ecuadorian.....    |           |           |           |           | 72        |           |            | 72         |
| Finnish.....       |           |           |           |           |           |           | 7,101      | 7,101      |
| French.....        | 13,600    | 7,176     | 36,680    | 159,859   | 286,812   | 125,249   | 132,836    | 762,212    |
| German.....        |           |           |           |           |           | 59,239    | 73,837     | 133,076    |
| Greek.....         |           |           |           | 5,741     | 8,301     |           |            | 14,042     |
| Honduran.....      |           | 321       |           |           |           |           |            | 321        |
| Italian.....       | 900       |           | 5,700     | 13,793    |           | 63,441    | 47,988     | 131,822    |
| Japanese.....      | 42,600    | 117,780   | 446,358   | 407,399   | 503,427   | 726,333   | 758,617    | 3,002,519  |
| Jugo-Slovak.....   |           |           |           |           |           |           | 8,325      | 8,325      |
| Mexican.....       |           |           | 22,545    | 253       | 142       |           | 3,785      | 26,725     |
| Nicaraguan.....    | 6         |           |           |           |           |           |            | 6          |
| Norwegian.....     | 166,522   | 229,366   | 597,581   | 1,090,823 | 577,679   | 404,323   | 637,887    | 3,704,133  |
| Panaman.....       |           |           | 135       |           |           | 872       |            | 1,500      |
| Peruvian.....      | 8,202     | 62,210    | 159,609   | 143,344   | 121,521   | 119,418   | 105,322    | 719,629    |
| Portuguese.....    |           |           |           |           |           | 10,775    |            | 10,775     |
| Russian.....       | 21,030    | 24        | 3,230     | 7,059     | 8,340     | 12,867    | 11,343     | 63,893     |
| Spanish.....       |           |           | 71,080    | 35,394    | 10,047    | 101,563   | 143,076    | 361,160    |
| Swedish.....       | 53,292    | 47,236    | 94,515    | 132,521   | 143,516   | 74,244    | 128,919    | 674,243    |
| United States..... | 2,187,904 | 848,857   | 1,475,725 | 2,098,277 | 2,758,886 | 4,547,140 | 5,163,025  | 19,079,814 |
| Totals.....        | 4,888,454 | 3,094,114 | 7,058,563 | 7,532,031 | 6,916,621 | 9,374,499 | 11,599,214 | 50,463,496 |

## Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended September 10:

U. S. submarines *O-15*, dock, stage, clean and paint; grind-in all C. and R. valves; install new rubber-seated valves; overhaul superstructure floods and vents; repair after-starboard hydroplane; manufacture and install new vertical anchor gear shaft; renew hull zincs; install port tube shutters and fit bails; overhaul both C. and R. air compressors; renew battery vent boxes; install new starboard propeller; repair starboard strut bearing; grind-in all engineering sea valves; repair mount for 3-inch gun; *O-16*, dock, stage, clean and paint bottom; grind-in all C. and R. sea valves; renew hull zincs; realign shafting for diving rudder; repair hydroplane angle indicator; repair starboard forward hydroplane; repair after-battery vent duct; repair anchor windlass shafting; repair lever arms and install on bow shutters; reinstall bow shutters; repack stern tube glands; grind-in all engineering sea valves; tug *Mariner*, dock, stage, clean and paint bottom; barges *No. 176*, dock, stage, scale bottom, and paint bottom to lower guard; *No. 194*, dock, stage, scale bottom, and paint bottom to light load line.

## PREVIOUSLY REPORTED.

Steamship *Solana*, dock, stage, clean, paint bottom, and perform miscellaneous engineers' and deck department repairs; tug *Gorgona*, miscellaneous repairs; launch *P-1*, rebuilding of hull; barges *No. 171*, dock, stage, scale, paint, and miscellaneous repairs; *No. 147*, dock, stage, scale and paint bottom; *No. 46*, dock, stage, scale and paint bottom; *No. 188*, dock, stage, scale and paint bottom; tug *Bolívar*, dock, stage, scale and paint bottom; steamship *Panama*, reboiling and general overhaul to machinery and hull.

The following vessels were at the Cristobal shops for repairs during the week ended September 12:

Steamships *Ulysses*, *General W. C. Gorgas*, *Allianca*, and *General H. F. Hodges*, miscellaneous repairs and painting to engine, deck, and steward departments; U. S. S. *Patuxent*, straighten and secure 1 brace rod to bulkhead; barge *No. 1*, dock and undock; clean and paint; renew 6 shell plates; steamships *Caribbean*, *Quillota*, *Heredia*, *Huallaga*, *Nashaba*, *Newport*, *West Faralon*, barque *C. D. Bryant*, tug *Favorite*, and launch *Hibiscus*, minor repairs.

## PREVIOUSLY REPORTED.

U. S. S. *Eagle No. 31*, overhaul sea valves and zincs; motor ship *Satoe*, general overhauling, including dry-docking; U. S. Jr. M. P. *Nones*, manufacturing awnings, stanchions, etc.; steamship *Toedjoe*, install bulwarks, alter crew accommodations, etc.

## Origin and Destination of all Commercial Cargo Passing Through the Panama Canal from the Pacific to the Atlantic. Fiscal Year 1921.

(Figures represent tons of 2,240 pounds.)

| Period.                  | West coast of South America. | West coast of United States. | Australasia. | Far East. | West coast of Canada. | Hawaiian Islands. | West coast of Central America. | Miscellaneous. | Totals.   | East coast of United States. | British Isles. | Other European. | West Indies. | Azore Islands. | Africa. | East coast of Canada. | Cristobal, C. Z. | Miscellaneous. |
|--------------------------|------------------------------|------------------------------|--------------|-----------|-----------------------|-------------------|--------------------------------|----------------|-----------|------------------------------|----------------|-----------------|--------------|----------------|---------|-----------------------|------------------|----------------|
| 1920.                    |                              |                              |              |           |                       |                   |                                |                |           |                              |                |                 |              |                |         |                       |                  |                |
| July.....                | 89,677                       | 166,866                      | 72,039       | 145,369   | 8,189                 |                   | 6,337                          |                | 488,497   | 164,613                      | 170,994        | 74,154          | 40,810       |                | 22,124  |                       | 15,114           | 688            |
| August.....              | 222,159                      | 116,729                      | 69,514       | 72,788    | 15,999                |                   | 3,597                          |                | 500,786   | 217,350                      | 161,979        | 41,333          | 21,049       |                | 16,650  |                       | 32,778           | 7,647          |
| September.....           | 235,274                      | 135,627                      | 69,415       | 102,264   | 9,453                 |                   | 2,095                          | 5,575          | 565,340   | 320,634                      | 133,696        | 56,531          | 16,712       |                | 25,214  |                       | 39,553           | 6,000          |
| October.....             | 208,547                      | 191,257                      | 45,565       | 29,315    | 12,318                | 12,371            | 3,000                          |                | 502,353   | 193,161                      | 181,824        | 77,238          | 6,551        | 6,621          | 7,622   |                       | 23,066           | 5,610          |
| November.....            | 200,077                      | 193,790                      | 48,864       | 38,167    | 11,401                |                   | 1,502                          |                | 493,801   | 197,226                      | 133,102        | 131,981         | 10,717       |                |         |                       | 13,165           |                |
| December.....            | 257,356                      | 137,029                      | 42,928       | 12,080    | 5,556                 |                   | 1,559                          |                | 457,088   | 179,052                      | 138,572        | 92,741          | 7,990        | 19,345         |         |                       | 19,388           |                |
| 1,213,690                | 941,278                      | 348,345                      | 399,983      | 62,806    | 18,008                | 18,008            | 18,090                         | 5,575          | 3,007,865 | 1,272,036                    | 920,167        | 473,978         | 104,129      | 25,966         | 71,610  |                       | 120,034          | 19,945         |
| 1921.                    |                              |                              |              |           |                       |                   |                                |                |           |                              |                |                 |              |                |         |                       |                  |                |
| January.....             | 260,211                      | 207,303                      | 110,905      | 21,745    | 17,946                |                   | 1,785                          |                | 619,895   | 193,390                      | 218,040        | 171,840         | 4,028        |                |         | 8,463                 | 23,534           |                |
| February.....            | 241,740                      | 179,518                      | 26,807       | 24,098    | 3,889                 |                   | 2,000                          |                | 478,032   | 157,586                      | 125,806        | 101,590         | 34,188       | 38,667         |         | 2,659                 | 4,706            | 12,830         |
| March.....               | 196,087                      | 142,403                      | 63,912       | 19,653    | 19,281                |                   | 6,048                          |                | 447,984   | 153,136                      | 151,881        | 98,371          | 1,153        | 15,524         |         | 5,436                 | 10,906           | 11,577         |
| April.....               | 157,489                      | 135,729                      | 79,973       | 16,045    | 7,270                 | 5,400             | 4,906                          |                | 406,812   | 174,811                      | 128,077        | 93,818          | 589          |                |         |                       | 8,562            | 955            |
| May.....                 | 107,466                      | 185,209                      | 51,533       | 7,813     | 1,120                 | 39,699            | 8,332                          | 240            | 411,412   | 150,016                      | 118,547        | 110,169         | 6,188        |                |         |                       | 14,549           | 11,943         |
| June.....                | 103,310                      | 157,408                      | 45,474       | 16,735    | 3,256                 | 849               | 8,104                          |                | 335,136   | 147,868                      | 100,913        | 66,349          | 5,659        |                |         |                       | 13,603           | 744            |
| 1,066,903                | 1,007,570                    | 378,604                      | 106,089      | 62,742    | 45,948                | 45,948            | 31,175                         | 240            | 2,699,271 | 976,807                      | 843,264        | 642,137         | 52,405       | 54,191         |         | 16,558                | 75,860           | 38,049         |
| 1,280,593                | 1,948,848                    | 726,949                      | 506,072      | 125,638   | 63,956                | 63,956            | 49,265                         | 5,815          | 5,707,136 | 2,248,843                    | 1,763,431      | 1,116,115       | 156,534      | 80,157         | 71,610  | 16,558                | 195,894          | 57,994         |
| Per cent of total cargo. | 40.0                         | 34.1                         | 12.7         | 8.9       | 2.2                   | 1.1               | 0.9                            | 0.1            | 100.0     | 39.4                         | 30.9           | 19.6            | 2.7          | 1.4            | 1.3     | 0.3                   | 3.4              | 1.0            |

\* For orders.



## Origin and Destination of all Commercial Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, Fiscal Year 1921.

(Figures represent tons of 2,240 pounds.)

| Period.                 | East coast of United States. | British Isles. | Other European. | East coast of Mexico. | East coast of Canada. | East coast of South America. | West Indies. | Cristobal, C. Z. | Miscellaneous. | Totals.   | West coast of South America. | Far East. | West coast of United States. | Australasia. | West coast of Canada. | West coast of Central America. | Balboa, C. Z. | Miscellaneous. |
|-------------------------|------------------------------|----------------|-----------------|-----------------------|-----------------------|------------------------------|--------------|------------------|----------------|-----------|------------------------------|-----------|------------------------------|--------------|-----------------------|--------------------------------|---------------|----------------|
| 1920.                   |                              |                |                 |                       |                       |                              |              |                  |                |           |                              |           |                              |              |                       |                                |               |                |
| July                    | 233,143                      | 52,062         | 13,221          | 71,569                | 5,500                 | 1,815                        | 9,400        | 16,085           | 1,022          | 308,317   | 149,037                      | 92,041    | 39,359                       | 72,516       | 15,974                | 9,626                          | 19,764        |                |
| August                  | 309,340                      | 87,814         | 15,826          | 104,159               | 5,500                 | 5,035                        | 28           | 12,252           | .....          | 539,954   | 177,078                      | 158,352   | 76,004                       | 65,977       | 9,426                 | 1,578                          | 19,416        |                |
| September               | 294,815                      | 56,283         | 6,818           | 81,533                | 6,109                 | 6,903                        | 2,867        | 18,889           | .....          | 444,217   | 161,771                      | 105,158   | 89,243                       | 67,690       | 5,534                 | 1,738                          | 13,077        | 2,123          |
| October                 | 331,040                      | 43,360         | 27,202          | 64,661                | .....                 | .....                        | .....        | 17,450           | .....          | 488,713   | 189,748                      | 125,642   | 59,526                       | 83,892       | 3,280                 | 1,635                          | 10,500        |                |
| November                | 341,220                      | 45,666         | 15,274          | 73,200                | 3,795                 | 1,693                        | .....        | 10,261           | .....          | 491,109   | 198,400                      | 58,610    | 86,068                       | 132,523      | 10,368                | 5,140                          | .....         |                |
| December                | 456,131                      | 38,174         | 18,593          | 81,333                | 7,583                 | 524                          | .....        | 17,063           | .....          | 619,451   | 276,374                      | 149,630   | 76,400                       | 84,265       | 560                   | 7,770                          | 24,372        |                |
| 1-year.                 | 1,935,689                    | 328,359        | 96,434          | 476,505               | 22,987                | 15,970                       | 12,495       | 92,000           | 1,022          | 2,981,761 | 1,152,608                    | 689,433   | 426,600                      | 551,239      | 45,092                | 27,537                         | 87,129        | 2,123          |
| 1921.                   |                              |                |                 |                       |                       |                              |              |                  |                |           |                              |           |                              |              |                       |                                |               |                |
| January                 | 355,821                      | 41,152         | 27,589          | 110,830               | .....                 | 2,365                        | 5,091        | 14,310           | .....          | 557,153   | 196,127                      | 86,180    | 126,932                      | 107,213      | 6,433                 | 2,354                          | 31,899        |                |
| February                | 318,019                      | 18,544         | 18,492          | 95,653                | 5,684                 | .....                        | 11,360       | 7,120            | .....          | 474,872   | 174,006                      | 93,771    | 109,899                      | 71,138       | 10,150                | 3,981                          | 8,927         |                |
| March                   | 311,363                      | 84,086         | 46,533          | 145,949               | 2,808                 | .....                        | 38,210       | 7,019            | .....          | 636,579   | 149,368                      | 147,367   | 127,788                      | 140,454      | 28,040                | 2,915                          | 40,647        |                |
| April                   | 305,918                      | 40,002         | 27,225          | 82,985                | 6,150                 | 6,916                        | 25,211       | 6,394            | .....          | 500,801   | 121,679                      | 110,916   | 136,582                      | 112,890      | 6,392                 | 2,342                          | 10,000        |                |
| May                     | 243,574                      | 21,447         | 19,405          | 87,720                | 1,396                 | 1,131                        | .....        | 3,650            | .....          | 381,323   | 73,871                       | 92,997    | 139,458                      | 60,985       | 418                   | 2,910                          | 10,548        |                |
| June                    | 241,705                      | 8,829          | 26,748          | 72,140                | 536                   | 954                          | .....        | 8,672            | .....          | 339,584   | 70,883                       | 90,977    | 109,145                      | 37,956       | 29,889                | 7,195                          | 7,183         |                |
| 1-year                  | 1,776,340                    | 217,060        | 165,992         | 595,277               | 16,574                | 11,837                       | 80,372       | 47,165           | .....          | 2,910,317 | 785,934                      | 622,208   | 749,824                      | 530,636      | 81,322                | 19,697                         | 109,205       | 11,491         |
| Fiscal year.            | 3,712,029                    | 545,419        | 262,926         | 1,071,782             | 39,561                | 27,507                       | 92,667       | 139,165          | 1,022          | 5,892,078 | 1,933,542                    | 1,311,641 | 1,176,424                    | 1,081,875    | 126,414               | 47,224                         | 196,334       | 13,614         |
| Per cent of total cargo | 63.0                         | 9.3            | 4.5             | 18.2                  | 0.7                   | 0.5                          | 1.6          | 2.3              | .....          | 100.0     | 32.9                         | 22.3      | 20.0                         | 18.4         | 2.1                   | 0.8                            | 3.3           | 0.2            |

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending September 10, 1921.

| Name of vessel.        | Line or charterer.                    | Arrived.          | Departed.         | Cargo—     |        |
|------------------------|---------------------------------------|-------------------|-------------------|------------|--------|
|                        |                                       |                   |                   | Discharged | Laded. |
|                        |                                       |                   |                   | Tons.      | Tons.  |
| Teviot.....            | Royal Mail Steam Packet Co.....       |                   | September 4.....  |            | 747    |
| Barima.....            | Pacific Steam Navigation Co.....      |                   | September 10..... |            | 4      |
| Allianca.....          | Panama Railroad Steamship Line.....   |                   | September 8.....  |            | 561    |
| Salvador.....          | Pacific Steam Navigation Co.....      | September 3.....  | September 8.....  | 848        | 305    |
| Ansaldo San Giorgio    |                                       |                   |                   |            |        |
| III.....               | Italian Line.....                     | September 4.....  | September 6.....  | 86         |        |
| Caribbean.....         | Panama Railroad Steamship Line.....   | September 4.....  | September 11..... | 50         | 25     |
| Newport.....           | Pacific Mail Steamship Co.....        | September 4.....  |                   | 286        |        |
| Gen. H. F. Hodges..... | Panama Railroad Steamship Line.....   | September 5.....  | September 8.....  | 806        |        |
| Parismina.....         | United Fruit Co.....                  | September 5.....  | September 8.....  | 1,188      | 81     |
| Ulua.....              | United Fruit Co.....                  | September 6.....  | September 7.....  | 276        | 77     |
| Asian.....             | Levlard Line.....                     | September 6.....  |                   | 246        |        |
| Abangarez.....         | United Fruit Co.....                  | September 7.....  | September 7.....  | 2          | 4      |
| Santa Marta.....       | United Fruit Co.....                  | September 7.....  | September 8.....  | 117        | 199    |
| Sivaola.....           | United Fruit Co.....                  | September 7.....  | September 8.....  | 3          | 11     |
| Huallaga.....          | Peruvian Line.....                    | September 8.....  |                   | 834        |        |
| Ceres.....             | Royal West Indian Mail.....           | September 8.....  | September 10..... | 264        |        |
| Manavi.....            | Pacific Steam Navigation Co.....      | September 8.....  |                   | 760        |        |
| Essequibo.....         | Pacific Steam Navigation Co.....      | September 9.....  | September 10..... | 59         | 50     |
| Balboa.....            | Colombian Maritime Co.....            | September 9.....  |                   | 585        |        |
| St. Mibiel.....        | United States Army.....               | September 10..... |                   | 1,360      |        |
| San Bruno.....         | United Fruit Co.....                  | September 10..... |                   | 50         |        |
| Laura C. Hall.....     | Pacific Metals Transportation Co..... | September 10..... |                   | 71         |        |

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending September 10, 1921.

| Name of vessel.     | Line or charterer.                    | Arrived.          | Departed.         | Cargo—     |        |
|---------------------|---------------------------------------|-------------------|-------------------|------------|--------|
|                     |                                       |                   |                   | Discharged | Laded. |
|                     |                                       |                   |                   | Tons.      | Tons.  |
| Newport.....        | Pacific Mail Steamship Co.....        | September 4.....  | September 5.....  | 50         |        |
| Ansaldo San Giorgio |                                       |                   |                   |            |        |
| III.....            | Societa Nazionale di Navigazione..... | September 6.....  | September 6.....  | 24         |        |
| Ansaldo IV.....     | Societa Nazionale di Navigazione..... | September 7.....  | September 8.....  | 41         | 6      |
| Manavi.....         | Pacific Steam Navigation Co.....      | September 8.....  | September 8.....  | 1          |        |
| Salvador.....       | Pacific Steam Navigation Co.....      | September 8.....  | September 8.....  |            | 1      |
| Hwah Ping.....      | Chinese Government.....               | September 9.....  | September 10..... | 246        |        |
| Laura C. Hall.....  | Pacific Metals Transportation Co..... | September 10..... | September 10..... | 6          |        |
| Achilles.....       | Panama Railroad Steamship Line.....   | September 9.....  |                   | 12,038     |        |

### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies, including the 25 per cent surcharge, effective September 1, 1921:

| Commodities.                                        | Unit.       | Price. |
|-----------------------------------------------------|-------------|--------|
| Brass, bar, average.....                            | Lb.         | \$0.31 |
| Brass, sheet, average.....                          | Lb.         | .41    |
| Bronze, Tobin, average.....                         | Lb.         | .31    |
| Cement, at Panama:                                  |             |        |
| Including bags and surcharge.....                   | Bag         | 1.45   |
| Credit for empty bags returned.....                 | Bag         | .10    |
| Cement, at Colon:                                   |             |        |
| Including bags and surcharge.....                   | Bag         | 1.28   |
| Credit for empty bag returned.....                  | Bag         | .10    |
| Charcoal.....                                       | Cwt.        | 1.63   |
| Gasoline, motor grade.....                          | Gal.        | .40    |
| Lead, sheet, average.....                           | Lb.         | .125   |
| Lead, pig.....                                      | Cwt.        | 11.68  |
| Lumber, yellow pine or fir, except ceiling.....     | M ft. B. M. | 77.50  |
| Lumber, ceiling, siding, and flooring, 1" x 6"..... | M ft. B. M. | 96.25  |
| Lumber, flooring, 1" x 3" and 1" x 4".....          | M ft. B. M. | 108.75 |

\* Lumber, native, prices per 1,000 feet board measure:

| Kind.         | ROUGH.   |          |
|---------------|----------|----------|
|               | Green.   | Kilned.  |
| Almendra..... | \$106.25 | \$118.75 |
| Alcavu.....   | 106.25   | 118.75   |
| Alcareto..... | 106.25   | 118.75   |
| Amargo.....   | 106.25   | 118.75   |
| Bateo.....    | 62.50    | 75.00    |

Lumber, native, prices per 1,000 feet board measure—Continued:

| Kind.                                                                                                                                                  | ROUGH.   |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
|                                                                                                                                                        | Green.   | Kilned.  |
| Cedro Amargo.....                                                                                                                                      | \$106.25 | \$118.75 |
| Caoba Blanca.....                                                                                                                                      | 106.25   | 118.75   |
| Guayacan.....                                                                                                                                          | 137.50   | 150.00   |
| Maria.....                                                                                                                                             | 62.50    | 75.00    |
| Roble.....                                                                                                                                             | 62.50    | 75.00    |
| Nispero.....                                                                                                                                           | 137.50   | 150.00   |
| Notes:                                                                                                                                                 |          |          |
| 1. Second grade Alcavú.....                                                                                                                            |          | 87.50    |
| 2. Second grade Caoba Blanca.....                                                                                                                      |          | 87.50    |
| 3. Second grade Cedro Amargo.....                                                                                                                      |          | 93.75    |
| 4. Other than rough standard native lumber required by individuals and companies<br>will be manufactured by the Mechanical Division for their account: |          |          |

| Commodities.                                                               | Unit.          | Price. |
|----------------------------------------------------------------------------|----------------|--------|
| Metal, yellow.....                                                         | Lb.            | \$0.34 |
| Oakum, navy, spun.....                                                     | Lb.            | .175   |
| Oakum, navy, unspun.....                                                   | Lb.            | .175   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....             | Bbl of 42 gals | 2.75   |
| Oil, fuel, at Balboa and Cristobal, in drums or barrels, no surcharge..... | Bbl of 42 gals | 3.00   |
| Oils, greases, and lubricants:                                             |                |        |
| Oil, air compressor cylinder.....                                          | Gal.           | .56    |
| Oil, ammonia cylinder.....                                                 | Gal.           | .51    |
| Oil, burning.....                                                          | Gal.           | 1.25   |
| Oil, cylinder, dark, marine.....                                           | Gal.           | 1.075  |
| Oil, cylinder, ice machine, steam.....                                     | Gal.           | .91    |
| Oil, dynamo.....                                                           | Gal.           | .775   |
| Oil, engine, gas, medium, in tins.....                                     | Gal.           | .675   |
| Oil, engine, gas, medium, in barrels.....                                  | Gal.           | .49    |
| Oil, gas engine, extra heavy, in barrels.....                              | Gal.           | 1.04   |
| Oil, gas engine, extra heavy, in cases.....                                | Gal.           | 1.125  |
| Oil, gas engine, medium, in drums.....                                     | Gal.           | .65    |
| Oil, kerosene, in drums.....                                               | Gal.           | .21    |
| Oil, kerosene, in tins.....                                                | Gal.           | .375   |
| Oil, linseed, boiled.....                                                  | Gal.           | 2.225  |
| Oil, linseed, raw.....                                                     | Gal.           | 1.625  |
| Oil, locomotive engine.....                                                | Gal.           | .34    |
| Oil, lard.....                                                             | Gal.           | 1.975  |
| Oil, marine engine.....                                                    | Gal.           | 1.04   |
| Oil, marine engine.....                                                    | Gal.           | .99    |
| Oil, mineral seal.....                                                     | Gal.           | .35    |
| Oil, nonliquid.....                                                        | Lb.            | .075   |
| Oil, stationary engine.....                                                | Gal.           | .50    |
| Oil, sperm.....                                                            | Gal.           | 2.62   |
| Oil, gas engine, extra heavy.....                                          | Gal.           | .55    |
| Oil, signal.....                                                           | Gal.           | 1.38   |
| Oil, valve.....                                                            | Gal.           | .45    |
| Oil, car.....                                                              | Gal.           | .21    |
| Grease, gear, black.....                                                   | Lb.            | .10    |
| Grease, yellow, cup, No. 3.....                                            | Lb.            | .125   |
| Grease, yellow, cup, No. 5.....                                            | Lb.            | .16    |
| Grease, rod, special.....                                                  | Lb.            | .21    |
| Grease, tunnel bearing.....                                                | Lb.            | .19    |
| Tallow.....                                                                | Lb.            | .10    |
| Turpentine.....                                                            | Gal.           | 2.26   |
| Turpentine, substitute.....                                                | Gal.           | .725   |
| Vaseline.....                                                              | Lb.            | .125   |
| Paint, lead, white, dry.....                                               | Lb.            | .14    |
| Paint, lead, white, in oil.....                                            | Lb.            | .16    |
| Paint, zinc, white, dry.....                                               | Lb.            | .20    |
| Paint, zinc, white, in oil.....                                            | Lb.            | .20    |
| Paint, zinc, white, leaded, 35 per cent in oil.....                        | Lb.            | .16    |
| Rope, manila, 1" diameter.....                                             | C. ft.         | .59    |
| Rope, manila, 1" diameter.....                                             | C. ft.         | 1.20   |
| Rope, manila, 1" diameter.....                                             | C. ft.         | 2.15   |
| Rope, manila, 1" diameter.....                                             | C. ft.         | 3.64   |
| Rope, manila, 1" diameter.....                                             | C. ft.         | 4.69   |
| Rope, manila, 1" diameter.....                                             | C. ft.         | 6.19   |
| Rope, manila, 1" diameter.....                                             | C. ft.         | 7.78   |
| Rope, manila, 1 1/2" diameter.....                                         | C. ft.         | 12.20  |
| Rope, manila, 1 1/2" diameter.....                                         | C. ft.         | 17.49  |
| Rope, manila, 1 1/2" diameter.....                                         | C. ft.         | 23.66  |
| Rope, manila, 2" diameter.....                                             | C. ft.         | 30.90  |
| Rope, manila, 2 1/2" diameter.....                                         | C. ft.         | 48.50  |
| Rope, manila, 3" diameter.....                                             | C. ft.         | 73.55  |
| Rope, manila, 3 1/2" diameter.....                                         | C. ft.         | 77.33  |
| Rope, manila, 4" diameter.....                                             | C. ft.         | 115.61 |
| Soap, laundry.....                                                         | Lb.            | .06    |
| Soda, ash.....                                                             | Lb.            | .04    |
| Waste, cotton.....                                                         | Lb.            | .24    |
| Zinc, boiler plate, 3/8" x 6" x 12".....                                   | Lb.            | .125   |

\* For use in special engines in motor schooners operating in the tropics.

## Official Circular.

## Appointment.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., September 9, 1921.  
CIRCULAR NO. 661-101:

Effective September 12, 1921, Commander R. W. Ryden, U. S. Navy, is assigned to duty as Superintendent, Mechanical Division, *vice* Commander E. G. Kintner, U. S. Navy, relieved from duty with The Panama Canal.

JAY J. MORROW,  
Governor.

## Current Net Prices on Coal, Fuel Oil, and Beef.

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$15 per ton of 2,240 pounds at Cristobal and \$17 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$15 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or more, the price is \$17 per ton at Cristobal, \$19 at Balboa.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$2.75 per barrel of 42 gallons.

Diesel oil is sold at \$4 per barrel. Cable arrangements should be made in advance of arrival of vessel.

The following are current prices on fresh beef sold from the cold storage plant of the Canal. Prices quoted are United States currency, per pound net:

Beef hinds, 18 cents; beef fores, 13½ cents; beef ribs, entire set, 17 cents; short loins, 24 cents. This beef is from Colombian cattle slaughtered on the Isthmus.

## Hogs For Sale.

The following hog stock is offered for sale, f.o.b. the Margarita hog farm:

6 grade boars, three-quarters Duroc, 1 year old.

14 grade boars, bred from three-quarters Duroc sow and full-blooded Hampshire boars, from 3 to 6 months old.

3 boars, seven-eighths Duroc, 4 to 5 months old.

For further information inquire at the Cattle Industry office in Cristobal.

## Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

## Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10" dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

## Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

## Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

MOVEMENTS OF OCEAN VESSELS.—Continued from page 63.  
PORT OF CRISTOBAL.—Continued.

| *ARRIVALS.       |                    |                                   |                                               | *DEPARTURES.                    |             |                                 |                                 |
|------------------|--------------------|-----------------------------------|-----------------------------------------------|---------------------------------|-------------|---------------------------------|---------------------------------|
| Date.            | Vessel.            | Line.                             | From—                                         | Date.                           | Vessel.     | Line.                           | For—                            |
| Sept. 7          | Santa Marta        | United Fruit Co.                  | New York via Kingston.                        | Sept. 7                         | Caribbean   | Panama Railroad Cattle Industry | Cartagena.                      |
| Sept. 7          | Sixola             | United Fruit Co.                  | Cartagena.                                    | Sept. 8                         | Alliance    | Panama Railroad Steamship Line  | New York.                       |
| Sept. 8          | Ashville           | United States Navy.               | Key West.                                     | Sept. 8                         | Parissima   | United Fruit Co.                | New Orleans via Bocas del Toro. |
| Sept. 10         | San Bruno          | United Fruit Co.                  | Port Limon.                                   | Sept. 8                         | Santa Marta | United Fruit Co.                | New York via Colombian ports.   |
| Sept. 10         | St. Michel         | United States Army.               | New York via San Juan.                        | Sept. 8                         | Sixola      | United Fruit Co.                | New York via Kingston.          |
| Sept. 10         | P. de Sarustegui   | Cia. Transatlantica de Barcelona. | Habana.                                       | Sept. 9                         | Ashville    | United States Navy              | High seas.                      |
| Sept. 10         | Gen. W. C. Gorgas. | Panama Railroad Steamship Line.   | New York via Haiti.                           | Sept. 10                        | San Bruno   | United Fruit Co.                | Boston, Mass.                   |
| "Gunboat.        |                    |                                   |                                               | "Transport.                     |             |                                 |                                 |
| PORT OF BALBOA.  |                    |                                   |                                               | "General Steamship Corporation. |             |                                 |                                 |
| Arica, Hongkong. |                    |                                   |                                               | Chinese Government.             |             |                                 |                                 |
| Sept. 7          | Meriden.           | General Steamship Corporation.    | * Other than ships passing through the Canal. | Sept. 7                         | Meriden     | General Steamship Corporation.  | San Francisco.                  |
| Sept. 9          | Hwah Ping.         | Chinese Government.               |                                               | Sept. 10                        | Hwah Ping   | Chinese Government.             | Valparaiso.                     |



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal, Washington, D. C.

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at Cristobal, C. Z., under the Act of March 3, 1879.



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Volume XV.      Balboa Heights, C. Z., September 21, 1921.      No. 6.

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## Grain Shipments.

Between January 1 and August 31, 1921, wheat shipments through the Panama Canal from Pacific to Atlantic aggregated 565,058 tons. They were heaviest in July (99,267 tons) and lightest in April (39,108 tons). The United States contributed 506,583 tons to the total, Canada 3,500 tons, Australasia 36,437 tons, South America 13,648 tons, and the Far East 4,890 tons.

Barley shipments during the same period aggregated 200,788 tons, of which 173,827 tons originated in the United States, 26,934 tons in South America, and 27 tons in Australasia.

Shipments of oats totaled 27,511 tons, of which 18,842 were from South America, and 8,669 tons from Australasia.

All of this grain was consigned to European ports.

## French Line (C. G. T.) Service to West Coast of Central and North America.

The General Agent of the Compagnie Generale Transatlantique (French Line) at Cristobal advises that his company will establish a new direct cargo service from Hamburg, Antwerp, Havre, and Bordeaux to Cristobal, Central American and Mexican ports, San Francisco and other north Pacific ports. The service is to be monthly and will employ 5 steamers of 11,000 tons deadweight.

The first sailing is that of the steamship *Ontario*, which was due to leave Bordeaux on September 20. The vessel should reach the Canal about October 10 and is scheduled to proceed to Corinto, La Union, La Libertad, Acajutla, San Jose de Guatemala, Manzanillo, Mazatlan, Guaymas, and San Francisco. On her return voyage she will be due at the Canal about November 25.

The French Line has been operating a cargo service to the west coast of South America since January, 1920, with regular monthly sailings. The itinerary is usually Havre, Antwerp, Hamburg, Bordeaux, Cristobal, Guayaquil, Callao, Mollendo, Arica, Iquique, Antofagasta, and Valparaiso, and return.

The company has also a fortnightly passenger and cargo service to Cristobal by way of West Indian and South American ports. Sailings are from Havre and calls are made at St. Nazaire, Bordeaux, Santander, Guadeloupe, Martinique, Trinidad, La Guaira, Puerto Colombia, and Cristobal. The return voyage is in the reverse order of ports.

## Reduction in Rate on Lumber from Pacific Northwest to East Coast of South America.

The Pacific-Argentine-Brazil Line, operating from the west coast of the United States around South America, outward through the Strait of Magellan and homeward through the Panama Canal, has announced a reduction in the tariff on lumber to Montevideo and Brazilian ports, according to the Seattle Chamber of Commerce. The new rate is \$17 per 1,000 feet and was made with the idea of stimulating the movement of lumber from the Pacific Northwest to the east coast of South America.

Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of Same, Month of August, 1921.  
**COMMODITY STATISTICS.**  
 ATLANTIC TO PACIFIC.

(Figures represent tons of 2,240 pounds.)

| Commodity.              | From—  |              |                              |                       |                  |                 | To—            |                              |                              |                |           |              |                       |                                |               |                  |
|-------------------------|--------|--------------|------------------------------|-----------------------|------------------|-----------------|----------------|------------------------------|------------------------------|----------------|-----------|--------------|-----------------------|--------------------------------|---------------|------------------|
|                         | Total. | West Indies. | East coast of South America. | East coast of Mexico. | Cristobal, C. Z. | Other European. | British Isles. | East coast of United States. | West coast of South America. | United States. | Far East. | Australasia. | West coast of Canada. | West coast of Central America. | Balboa, C. Z. | Hawaiian Islands |
| Agricultural implements | 210    |              |                              |                       |                  |                 |                | 210                          |                              |                |           |              |                       |                                |               |                  |
| Alcohol                 | 20     |              |                              |                       |                  |                 |                | 20                           |                              |                |           |              |                       |                                |               |                  |
| Ammonia                 | 6,997  |              |                              |                       |                  |                 |                | 6,997                        |                              |                |           |              |                       |                                |               |                  |
| Ammunition              | 20     |              |                              |                       |                  |                 |                | 20                           |                              |                | 6,997     |              |                       |                                |               |                  |
| Asphalt                 | 235    |              |                              |                       |                  |                 |                | 235                          |                              |                |           |              |                       |                                |               |                  |
| Auto accessories        | 42     |              |                              |                       | 5                |                 |                | 37                           | 5                            |                |           |              |                       |                                |               |                  |
| Automobiles             | 134    |              |                              |                       |                  | 20              |                | 114                          | 23                           |                |           |              |                       |                                |               |                  |
| Bark, ground            | 15     |              |                              |                       |                  |                 |                | 15                           |                              |                |           |              |                       |                                |               |                  |
| Blood, dried            | 92     |              | 92                           |                       |                  |                 |                |                              |                              |                |           |              |                       |                                |               |                  |
| Canned goods:           |        |              |                              |                       |                  |                 |                |                              |                              |                |           |              |                       |                                |               |                  |
| Fish                    | 66     |              |                              |                       | 2                |                 |                | 64                           | 2                            |                |           |              |                       |                                |               |                  |
| Fruit                   | 10     |              |                              |                       |                  |                 |                |                              |                              |                |           |              |                       |                                |               |                  |
| Meat                    | 6      |              |                              |                       | 6                |                 |                |                              | 6                            |                |           |              |                       |                                |               |                  |
| Milk                    | 242    |              |                              |                       | 2                |                 |                | 240                          | 4                            |                |           |              |                       |                                |               |                  |
| Vegetables              | 510    |              |                              |                       | 4                |                 |                | 506                          | 4                            |                | 240       |              |                       |                                |               |                  |
| Other                   | 2,337  |              |                              |                       |                  |                 | 5              | 2,332                        | 5                            |                |           |              |                       |                                |               |                  |
| China clay              | 1,162  |              |                              |                       |                  |                 | 1,162          |                              |                              |                |           |              |                       |                                |               |                  |
| Coal                    | 24,066 |              |                              |                       | 22               | 10              | 5,743          | 18,291                       | 6,893                        |                |           |              |                       |                                | 9,181         |                  |
| Corn                    | 36     |              |                              |                       |                  | 36              |                |                              | 36                           |                |           |              |                       |                                |               |                  |
| Carbon, black           | 45     |              |                              |                       |                  |                 |                | 45                           |                              |                |           |              |                       |                                |               |                  |
| Chemicals               | 405    |              |                              |                       | 3                | 60              | 176            |                              | 244                          |                |           |              |                       |                                |               |                  |
| Chocolates              | 85     |              |                              |                       |                  |                 |                | 85                           |                              |                |           |              |                       |                                |               |                  |
| Cement                  | 3,511  |              |                              |                       |                  | 2,994           |                | 517                          | 3,511                        |                |           |              |                       |                                |               |                  |
| Cocoa                   | 126    |              |                              |                       |                  |                 | 50             | 76                           |                              |                |           |              |                       |                                |               |                  |
| Coconuts                | 10     |              |                              |                       | 10               |                 |                |                              | 10                           |                |           |              |                       |                                |               |                  |
| Coffee                  | 1,180  |              | 770                          |                       |                  |                 |                |                              |                              |                |           |              |                       |                                |               |                  |
| Cold storage (lard)     | 273    |              |                              |                       | 2                |                 |                | 271                          | 85                           |                |           |              |                       |                                |               |                  |
| Copper sulphate         | 10     |              |                              |                       |                  |                 | 10             |                              |                              |                |           |              |                       |                                |               |                  |
| Cotton, raw             | 34,482 |              |                              |                       |                  |                 |                | 34,482                       | 9                            |                |           |              |                       |                                |               |                  |
| Cotton seed             | 15     |              |                              |                       | 15               |                 |                |                              | 15                           |                |           |              |                       |                                |               |                  |
| Drugs                   | 41     |              |                              |                       |                  |                 |                | 41                           |                              |                |           |              |                       |                                |               |                  |
| Dyes                    | 222    |              |                              |                       |                  |                 |                | 222                          |                              |                |           |              |                       |                                |               |                  |
| Explosives              | 64     |              |                              |                       |                  |                 | 64             |                              |                              |                |           |              |                       |                                |               |                  |
| Flour                   | 359    |              |                              |                       | 339              |                 |                | 20                           | 359                          |                |           |              |                       |                                |               |                  |
| Glass (glassware)       | 593    |              |                              |                       |                  | 2               | 24             | 567                          | 6                            |                |           |              |                       |                                |               |                  |
| Glucose                 | 91     |              |                              |                       |                  |                 |                | 91                           |                              |                |           |              |                       |                                |               |                  |
| Infusorial earth        | 50     |              |                              |                       |                  |                 |                | 50                           |                              |                |           |              |                       |                                |               |                  |
| Jute                    | 15     |              |                              |                       |                  |                 |                | 15                           |                              |                |           |              |                       |                                |               |                  |

[illegible]

PACIFIC TO ATLANTIC.  
(Figures represent tons of 2,240 pounds.)

| Commodity.               | Total. | From—                        |                   |                                |                       |              |           | To—                          |                              |                              |                |                 |                   |                       |              |                       |                              |
|--------------------------|--------|------------------------------|-------------------|--------------------------------|-----------------------|--------------|-----------|------------------------------|------------------------------|------------------------------|----------------|-----------------|-------------------|-----------------------|--------------|-----------------------|------------------------------|
|                          |        | East coast of South America. | Hawaiian Islands. | West coast of Central America. | West coast of Canada. | Australasia. | Far East. | West coast of United States. | West coast of South America. | East coast of United States. | British Isles. | Other European. | Christobal, C. Z. | East coast of Canada. | West Indies. | East coast of Mexico. | East coast of South America. |
| Automobiles.....         | 22     |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Balsa.....               | 94     |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Balsam.....              | 7      |                              |                   | 7                              |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Bark.....                |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Cascara.....             | 10     |                              |                   |                                | 10                    |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Peruvian.....            | 8      |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Quilay.....              | 214    |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Barley.....              | 77,661 |                              |                   |                                |                       |              |           | 73,566                       | 4,095                        | 68,724                       | 30             | 134             |                   |                       |              |                       |                              |
| Beans.....               | 5,571  |                              |                   |                                |                       |              |           | 3,409                        | 1,932                        | 1,914                        | 425            | 1,842           | 18                |                       | 1,372        |                       |                              |
| Breks.....               | 30     |                              |                   |                                | 30                    |              |           |                              |                              |                              |                |                 |                   | 30                    |              |                       |                              |
| Cacao.....               | 1,469  |                              |                   |                                |                       |              |           |                              | 1,469                        | 148                          | 185            | 185             | 951               |                       |              |                       |                              |
| Canned goods:            |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Fish.....                | 7,972  |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Fruit.....               | 10,921 |                              |                   |                                | 55                    |              | 40        | 7,877                        | 18                           | 5,868                        | 1,549          | 555             |                   |                       |              | 200                   |                              |
| Meat.....                | 141    |                              |                   |                                |                       | 141          |           | 10,903                       |                              | 4,660                        | 3,672          | 2,389           |                   |                       |              |                       |                              |
| Milk.....                | 836    |                              |                   |                                |                       |              |           | 836                          |                              | 556                          | 280            |                 |                   |                       |              |                       |                              |
| Vegetables.....          | 813    |                              |                   |                                |                       |              |           | 811                          | 2                            | 611                          |                | 2               |                   |                       | 200          |                       |                              |
| Other.....               | 1,085  |                              |                   |                                |                       |              |           | 1,085                        |                              | 1,085                        |                |                 |                   |                       |              |                       |                              |
| Celote.....              | 546    |                              |                   |                                |                       |              |           | 546                          |                              | 546                          |                |                 |                   |                       |              |                       |                              |
| Charcoal.....            | 107    |                              |                   |                                |                       |              | 9         | 98                           |                              | 107                          |                |                 |                   |                       |              |                       |                              |
| Chemicals.....           | 12     |                              |                   |                                |                       |              |           | 12                           |                              | 12                           |                |                 |                   |                       |              |                       |                              |
| Coffee.....              | 6,710  |                              |                   | 4,131                          |                       |              |           |                              | 2,579                        | 600                          |                | 939             | 5,171             |                       |              |                       |                              |
| Cold storage:            |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
| Beef.....                | 1,430  |                              |                   |                                |                       | 1,430        |           |                              |                              |                              | 1,430          |                 |                   |                       |              |                       |                              |
| Butter.....              | 1,277  |                              |                   |                                |                       | 1,277        |           |                              |                              |                              | 1,277          |                 |                   |                       |              |                       |                              |
| Cheese.....              | 2,739  |                              |                   |                                |                       | 2,710        |           |                              | 29                           |                              | 2,710          | 20              |                   |                       |              |                       |                              |
| Lard.....                | 306    |                              |                   |                                |                       |              |           | 306                          |                              |                              |                | 306             |                   |                       |              |                       |                              |
| Mutton.....              | 20,367 |                              |                   |                                | 50                    | 20,050       |           |                              | 217                          |                              | 20,367         |                 |                   |                       |              |                       |                              |
| Tallow.....              | 1,624  |                              |                   |                                | 1,489                 | 1,489        |           | 135                          |                              | 41                           | 1,489          | 94              |                   |                       |              |                       |                              |
| Glaxo.....               | 212    |                              |                   |                                | 212                   | 212          |           |                              |                              |                              | 212            |                 |                   |                       |              |                       |                              |
| Pork.....                | 40     |                              |                   |                                |                       |              |           |                              |                              |                              |                | 40              |                   |                       |              |                       |                              |
| Other.....               | 3,663  |                              |                   |                                | 3,476                 | 3,476        |           | 187                          |                              |                              | 3,446          |                 |                   |                       |              |                       |                              |
| Copra.....               | 3,115  |                              |                   |                                |                       |              | 500       | 2,580                        |                              | 1,515                        |                | 217             |                   |                       |              |                       |                              |
| Corn.....                | 202    |                              |                   |                                |                       |              |           |                              | 202                          |                              | 1,600          |                 |                   |                       |              |                       |                              |
| Cotton, raw.....         | 4,140  |                              |                   |                                |                       |              |           | 262                          | 3,842                        | 249                          | 1,575          | 202             |                   |                       |              |                       |                              |
| Cottonseed oil cake..... | 4,558  |                              |                   |                                |                       |              |           | 1,189                        | 3,369                        |                              | 1,369          | 3,159           |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |
|                          |        |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                   |                       |              |                       |                              |





COMMODITY STATISTICS.—PACIFIC TO ATLANTIC—Continued.  
(Figures represent tons of 2,240 pounds.)

| Commodity.                   | Total.  | From—                        |                   |                                |                       |              |           | To—                          |                              |                              |                |                 |                  |                       |              |                       |                              |
|------------------------------|---------|------------------------------|-------------------|--------------------------------|-----------------------|--------------|-----------|------------------------------|------------------------------|------------------------------|----------------|-----------------|------------------|-----------------------|--------------|-----------------------|------------------------------|
|                              |         | East coast of South America. | Hawaiian Islands. | West coast of Central America. | West coast of Canada. | Australasia. | Far East. | West coast of United States. | West coast of South America. | East coast of United States. | British Isles. | Other European. | Cristobal, C. Z. | East coast of Canada. | West Indies. | East coast of Mexico. | East coast of South America. |
| Porcelain.....               | 284     |                              |                   |                                | 1,500                 |              | 284       |                              |                              | 284                          |                |                 |                  |                       |              |                       |                              |
| Pulpwood.....                | 1,500   |                              |                   |                                |                       |              | 1,818     | 3,175                        | 40                           | 1,500                        |                |                 |                  |                       |              |                       |                              |
| Rice.....                    | 5,033   |                              |                   |                                |                       |              |           |                              |                              | 1,751                        |                |                 |                  |                       |              |                       |                              |
| Rubber:                      |         |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                       |                              |
| Raw.....                     | 639     |                              |                   |                                |                       |              | 687       |                              | 2                            | 687                          |                |                 |                  |                       |              |                       |                              |
| Manufactured.....            | 39      |                              |                   |                                | 5                     |              |           | 34                           | 150                          | 34                           | 5              |                 | 2                |                       |              |                       |                              |
| Rye.....                     | 150     |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                       |                              |
| Seed:                        |         |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                       |                              |
| Cotton.....                  | 4,239   |                              |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                       |                              |
| Clover.....                  | 647     |                              |                   |                                |                       |              |           |                              | 4,239                        |                              |                |                 |                  |                       |              |                       |                              |
| Hemp.....                    | 226     |                              |                   |                                |                       |              |           |                              | 647                          | 20                           |                |                 |                  |                       |              |                       |                              |
| Mustard.....                 | 137     |                              |                   |                                |                       |              |           |                              | 524                          | 103                          |                |                 |                  |                       |              |                       |                              |
| Sesamum.....                 | 100     |                              |                   |                                |                       |              | 137       |                              | 226                          | 307                          |                |                 |                  |                       |              |                       |                              |
| Other.....                   | 9       |                              |                   |                                |                       | 9            | 100       |                              |                              | 137                          |                |                 |                  |                       |              |                       |                              |
| Shells, mother-of-pearl..... | 72      |                              |                   |                                |                       |              |           |                              |                              | 100                          |                |                 |                  |                       |              |                       |                              |
| Silk.....                    | 95      |                              |                   |                                |                       | 49           | 3         | 20                           |                              | 52                           | 20             |                 |                  |                       |              |                       |                              |
| Slate, pencil.....           | 16      |                              |                   |                                |                       |              | 90        | 5                            |                              | 95                           |                |                 |                  |                       |              |                       |                              |
| Skins and hides.....         | 2,571   |                              |                   |                                |                       | 688          | 336       | 446                          | 1,009                        | 1,073                        | 856            | 16              | 368              |                       |              |                       |                              |
| Soap.....                    | 12      |                              |                   | 92                             |                       |              |           | 12                           |                              |                              |                |                 | 12               |                       |              |                       |                              |
| Sugar.....                   | 49,406  |                              | 29,700            |                                |                       |              | 14,365    |                              | 5,341                        | 44,065                       | 5,341          |                 |                  |                       |              |                       |                              |
| Talc.....                    | 164     |                              |                   |                                |                       |              |           | 164                          |                              | 164                          |                |                 |                  |                       |              |                       |                              |
| Tea.....                     | 444     |                              |                   |                                |                       |              | 444       |                              |                              | 444                          |                |                 |                  |                       |              |                       |                              |
| Vegetables.....              | 145     |                              |                   |                                |                       |              |           | 140                          | 5                            |                              |                | 5               |                  | 140                   |              |                       |                              |
| Walnuts.....                 | 708     |                              |                   |                                |                       |              |           |                              | 708                          | 708                          |                |                 |                  |                       |              |                       |                              |
| Wax.....                     | 11      |                              |                   |                                |                       |              |           |                              | 11                           | 5                            | 6              |                 |                  |                       |              |                       |                              |
| Wheat.....                   | 80,231  |                              |                   |                                |                       | 3,600        |           | 76,081                       | 550                          |                              |                |                 |                  |                       |              |                       |                              |
| Wool.....                    | 10,468  |                              |                   |                                |                       | 5,442        | 719       | 3,350                        | 957                          | 4,155                        | 5,649          | 77              |                  |                       |              |                       |                              |
| General.....                 | 52,984  | 302                          | 29,700            | 4,785                          | 4,978                 | 873          | 6,836     | 39,580                       | 5,059                        | 43,564                       | 3,372          | 1,304           | 1,705            | 1,080                 | 50           |                       | 674                          |
| Totals.....                  | 521,303 | 302                          | 29,700            | 4,785                          | 4,978                 | 56,462       | 29,308    | 293,564                      | 102,204                      | 206,254                      | 205,364        | 13,407          | 1,705            | 3,969                 | 2,842        |                       | 724                          |

**Shipment of Fresh Meat from Canada to Europe by Way of the Canal.**

The steamship *Kinderdijk* of the Holland-American Line, passing through the Canal on August 26, carried in cold storage 100 tons of mutton, shipped from Vancouver and Seattle to London.

Press dispatches report that this is the first shipment of chilled meat from Canada to Europe by way of the Canal, as it has customarily been handled by refrigerator cars to the Atlantic coast and over Atlantic lines.

The *Kinderdijk* has in cold storage, also, on this voyage, 230 tons of lard from Los Angeles for Hamburg.

In the first 6 months of the current calendar year, 71,036 tons of mutton in cold storage were shipped through the Canal from Australia and New Zealand for the United Kingdom. Other shipments in cold storage from Australasia in that period included 33,720 tons of beef, 30,316 tons of cheese, 19,057 tons of butter, 10,752 tons of tallow, 2,272 tons of glaxo, 2,038 tons of casein, and 16,882 tons of cold storage classified as "other." In all, the cold storage shipments from the Australasian area through the Canal in the 6 months aggregated 186,073 tons.

The cold storage carriage through the Canal from Australia and New Zealand is an old-established service, dating back to the first year of Canal operation. The cold storage service from the west coast to Europe is about a year old, the first vessel of the Holland-American Line, bound from Vancouver and other west coast ports for Europe, having passed through the Canal on September 8, 1920. The demand for cold storage space, homeward bound, on this route has exceeded the supply.

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**Rate on Apples from Seattle to North European Ports.**

*Shipping*, of August 25, states that the Royal Mail agencies have announced a new rate on apples of \$1.25 per box from Seattle to North Europe ports in refrigerated space. It is expected that the State of Washington will produce one-fifth of all the commercial apples marketed in the United States and that substantial shipments of them will be made through the Canal.

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**The "Hwah Ping" Beginning Chinese Service Along West Coast.**

The Chinese steamer *Hwah Ping*, arriving at Balboa on September 9, from Hongkong by way of Honolulu, is making the initial voyage of the service between Chinese ports and the west coast of the Americas, which was announced in THE PANAMA CANAL RECORD of August 3. The vessel is owned by the Chinese Government and has been chartered by the Chungwha Navigation Company, most of the stock of which is owned by Chinese merchants trading in the west coast countries and Cuba. The head office of the company is in Lima, Peru.

The *Hwah Ping* brought 246 tons of cargo and 138 passengers to Balboa for Panama, in addition to through cargo and passengers. She cleared on September 10 for Valparaiso, via Callao, Arica, Iquique, and Antofagasta. On her return voyage she is due at Balboa about October 15.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, September 17, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.             | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                          | Length. | Beam. | Salt water draft. | From—          | For—           | Cargo.           |        | Panama Canal tonnage. |
|-------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|--------------------------------|---------|-------|-------------------|----------------|----------------|------------------|--------|-----------------------|
|                   | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                |         |       |                   |                |                | Nature.          | Tons.  |                       |
| Valparaiso.       | 10               | 18 10 | 11             | 6 35  | 11                 | 12 49 | 11               | 17 00 | Swedish      | Johnson Line                   | 367.0   | 51.0  | 15.0              | Stockholm.     | San Francisco. | Ballast.         | 5,371  | 3,969                 |
| City of Sydney.   | 10               | 22 35 | 11             | 7 45  | 11                 | 14 20 | 11               | 15 51 | British      | Montgomery                     | 450.0   | 37.0  | 22.6              | New York.      | Auckland.      | General.         | 5,000  | 7,524                 |
| Anglo Saxon.      | 11               | 7 04  | 11             | 9 10  | 11                 | 15 30 | 11               | 20 53 | British      | Lawther Latta & Co.            | 330.0   | 50.0  | 15.6              | Newcastle.     | Portland, Ore. | Ballast.         | 5,436  | 3,939                 |
| Tanien.           | 11               | 7 05  | 11             | 10 17 | 11                 | 16 58 | 11               | 19 12 | British      | T. and J. Harrison.            | 470.0   | 56.0  | 20.6              | North Shields. | San Francisco. | Ballast.         | 7,740  | 5,705                 |
| Natal.            | 11               | 9 46  | 11             | 10 45 | 11                 | 18 01 | 11               | 20 56 | Danish       | Orient Steamship Co.           | 360.0   | 51.0  | 14.6              | Barry.         | San Francisco. | Ballast.         | 4,670  | 3,303                 |
| Tsunuma Maru      | 11               | 7 03  | 11             | 11 13 | 11                 | 18 44 | 11               | 19 52 | Japanese.    | Nippon Yusen Kaisha.           | 445.0   | 58.0  | 23.8              | New York.      | Yokohama.      | General.         | 9,678  | 7,458                 |
| Scotland Maru     | 11               | 7 58  | 11             | 12 15 | 11                 | 19 58 | 12               | 1 30  | Japanese.    | Koyo Kisen Kaisha.             | 335.0   | 51.0  | 26.9              | Galveston.     | Yokohama.      | General.         | 6,550  | 5,919                 |
| Laura C. Hall.    | 10               | 21 37 | 12             | 6 10  | 12                 | 14 57 | 13               | 20 40 | British      | Pacific Metals Corporation     | 81.0    | 25.0  | 9.0               | Cristobal.     | Buenaventura.  | General.         | 15     | 132                   |
| Paruxent.         | 12               | 6 20  | 12             | 15 06 | 12                 | 15 06 | 12               | 15 06 | American     | United States Navy             |         |       |                   | Cristobal.     | Balboa.        |                  |        | 63                    |
| Scota.            | 12               | 6 35  | 12             | 15 28 | 12                 | 15 28 | 12               | 15 28 | American     | United States Navy             |         |       |                   | Cristobal.     | Balboa.        |                  |        |                       |
| Italy Maru.       | 12               | 7 01  | 12             | 7 24  | 12                 | 16 04 | 12               | 20 20 | Japanese.    | Kawasaki Kisen Kaisha          | 335.0   | 51.0  | 15.6              | Cardiff.       | Grays Harbor.  | Ballast.         | 5,914  | 4,388                 |
| Balboa.           | 9                | 18 25 | 12             | 10 50 | 12                 | 17 05 | 12               | 18 00 | American     | Colombian Maritime Co.         | 190.0   | 27.0  | 11.0              | Cristobal.     | Buenaventura.  | Ballast.         | 741    | 350                   |
| Boverie.          | 12               | 9 55  | 13             | 6 38  | 13                 | 14 18 | 13               | 15 25 | British      | Andrew Weir & Co.              | 398.0   | 50.0  | 24.4              | New York.      | Shanghai.      | Oil and general. | 6,104  | 4,966                 |
| S. C. 285.        | 13               | 6 45  | 13             | 13 15 | 13                 | 13 15 | 13               | 13 15 | American     | United States Navy             |         |       |                   | Cristobal.     | Pedro Miguel.  |                  |        | 3,434                 |
| Noorddijk.        | 13               | 7 22  | 13             | 12 22 | 13                 | 18 54 | 13               | 19 55 | Dutch.       | Holland-American Line.         | 470.0   | 58.0  | 18.5              | London.        | San Francisco. | General.         | 1,583  | 8,888                 |
| Manavi.           | 8                | 17 15 | 14             | 6 34  | 14                 | 13 50 | 14               | 16 00 | British      | Pacific Steam Navigation Co.   | 216.0   | 35.0  | 11.4              | Cristobal.     | Guayaquil.     | General.         | 34     | 1,357                 |
| Andrea F.         | 13               | 20 07 | 14             | 7 20  | 14                 | 15 04 | 14               | 16 00 | American     | Lukenbach Line.                | 496.0   | 68.0  | 19.0              | New York.      | Los Angeles.   | General.         | 1,600  | 11,487                |
| Lukenbach.        | 8                | 16 05 | 14             | 11 32 | 14                 | 17 43 | 14               | 20 46 | Peruvian.    | Peruvian Steamship Line.       | 360.0   | 45.0  | 20.6              | Cristobal.     | Ilo.           | General.         | 392    | 4,514                 |
| Huallaga.         | 5                | 15 50 | 15             | 6 16  | 15                 | 13 34 | 15               | 16 45 | American     | W. R. Smith & Sons             | 326.0   | 37.0  | 19.9              | Cristobal.     | San Francisco. | General.         | 1,807  | 3,173                 |
| Newport.          | 15               | 8 01  | 15             | 8 10  | 15                 | 15 14 | 15               | 16 10 | British      | Pacific Mail Steamship Co.     | 396.0   | 53.0  | 17.0              | Newcastle.     | Portland.      | Ballast.         | 5,682  | 4,229                 |
| Orient City.      | 15               | 8 01  | 15             | 8 10  | 15                 | 15 14 | 15               | 16 10 | American     | United States Navy             |         |       |                   | Cristobal.     | Balboa.        |                  |        |                       |
| Gen. Graham.      | 15               | 8 10  | 15             | 8 10  | 15                 | 15 06 | 15               | 16 05 | American     | American-Hawaiian Line         | 470.0   | 57.0  | 21.0              | Cristobal.     | Tacoma.        | General.         | 2,173  | 9,250                 |
| Alaskan.          | 15               | 8 30  | 15             | 9 20  | 15                 | 17 25 | 15               | 18 25 | American     | Pacific Steam Navigation Co.   | 465.0   | 56.0  | 21.0              | Liverpool.     | Coronel.       | General.         | 1,205  | 8,620                 |
| Orizaba.          | 15               | 1 10  | 15             | 12 12 | 15                 | 18 22 | 15               | 20 52 | British.     | W. R. Grace & Co.              | 300.0   | 45.0  | 17.2              | New York.      | Ecuador.       | General.         | 1,231  | 3,228                 |
| Garfield.         | 15               | 7 20  | 15             | 13 09 | 15                 | 19 52 | 15               | 20 52 | American     | F. and W. Ritson.              | 390.0   | 51.0  | 18.0              | London.        | Guayaquil.     | General.         | 1,092  | 4,912                 |
| Cedar Branch.     | 15               | 7 08  | 16             | 6 30  | 16                 | 15 05 | 16               | 15 00 | British.     | Barber Steamship Line (S. B.). | 439.0   | 60.0  | 26.0              | New York.      | Yokohama.      | Cotton, general. | 8,536  | 9,018                 |
| William Penn.     | 16               | 7 20  | 16             | 7 30  | 16                 | 14 58 | 16               | 17 05 | American     | James Chambers & Co.           | 430.0   | 55.8  | 24.0              | New York.      | Yokohama.      | General.         | 6,587  | 6,861                 |
| Wray Castle.      | 16               | 15 20 | 17             | 6 25  | 17                 | 14 26 | 17               | 16 05 | British.     | Shaw, Saville & Albion Co.     | 496.0   | 63.0  | 21.9              | Southampton.   | Wellington.    | General.         | 11,229 | 8,252                 |
| Wampan.           | 16               | 19 20 | 17             | 9 10  | 17                 | 16 02 | 17               | 17 15 | British.     | Kokusai Kisen Kaisha           | 400.0   | 53.0  | 16.0              | Cardiff.       | Portland.      | Ballast.         | 5,376  | 4,252                 |
| Boston Maru.      | 17               | 10 48 | 17             | 11 20 | 17                 | 18 13 | 18               | 18 52 | Japanese.    | Lukenbach Line.                |         |       |                   | Mobile.        | San Francisco. | General.         | 4,200  | 4,808                 |
| Hattie Lukenbach. | 17               | 7 10  | 17             | 13 30 | 17                 | 20 02 | 17               | 21 20 | American.    |                                | 324.0   | 47.0  | 23.2              |                |                |                  |        | 3,768                 |

1 Motor ship.

2 Motor schooner.

3 Tug, towing barges Nos. 463 and 472.

4 Tug, towing barges Nos. 469 and 470.

5 Towing yawl.

6 Mine planter.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                       |      |    |    |    |    |    |    |    |    |    |    |    |            |                               |                |     |   |    |   |                 |                  |       |       |
|-----------------------|------|----|----|----|----|----|----|----|----|----|----|----|------------|-------------------------------|----------------|-----|---|----|---|-----------------|------------------|-------|-------|
| Texan.....            | 10   | 15 | 05 | 11 | 7  | 42 | 11 | 15 | 17 | 11 | 15 | 17 | American   | American-Hawaiian Line.       | Seattle.       | 57  | 2 | 27 | 0 | New York.       | General.         | 9,160 | 7,033 |
| Suruga.....           | 11   | 8  | 10 | 11 | 9  | 44 | 11 | 17 | 20 | 11 | 18 | 15 | American   | Barber Lines.                 | Manila.        | 57  | 2 | 24 | 0 | Philadelphia.   | General.         | 6,500 | 5,177 |
| Julia Luckenbach..... | 11   | 17 | 54 | 12 | 7  | 34 | 12 | 17 | 00 | 13 | 23 | 50 | American   | Luckenbach Line.              | San Francisco. | 57  | 0 | 20 | 0 | New York.       | Lumber, general. | 8,490 | 8,543 |
| Santa Elisa.....      | 12   | 3  | 30 | 12 | 8  | 55 | 12 | 15 | 19 | 12 | 22 | 14 | American   | Grace Line.                   | Talcahuano.    | 360 | 5 | 23 | 0 | New York.       | General.         | 3,208 | 6,427 |
| Hector.....           | 12   | 4  | 00 | 12 | 14 | 05 | 12 | 21 | 24 | 13 | 23 | 55 | Dutch      | Royal Netherlands W. I. Mail. | Valparaiso.    | 44  | 2 | 23 | 0 | New York.       | General.         | 5,957 | 4,325 |
| Dolphin.....          | 8-23 | 12 | 47 | 13 | 6  | 56 | 13 | 13 | 31 | 13 | 13 | 31 | American   | United States Navy.           | Balboa.        | 35  | 0 | 16 | 0 | Puerto Barrios. | General.         | 4,380 | 3,677 |
| Patuxent.....         | 12   | 15 | 06 | 13 | 7  | 21 | 13 | 16 | 35 |    |    |    | American   | United States Navy.           | Balboa.        | 35  | 0 | 16 | 0 | Cristobal.      | General.         | 2,760 |       |
| Scotia.....           | 12   | 15 | 28 | 13 | 7  | 24 | 13 | 16 | 40 |    |    |    | American   | United States Navy.           | Balboa.        | 30  | 0 |    |   | Cristobal.      | General.         |       |       |
| Eastern Merchant..... | 13   | 13 | 00 | 13 | 13 | 49 | 13 | 22 | 05 | 14 | 6  | 25 | American   | Williams-Dimond Co. (S. B.).  | Seattle.       | 58  | 0 | 26 | 8 | Antwerp.        | General.         | 9,535 | 8,617 |
| Kofuku Maru.....      | 13   | 14 | 00 | 14 | 7  | 05 | 14 | 15 | 30 | 14 | 15 | 55 | Japanese   | Kokutsu Kisen Kaisha.         | Portland.      | 51  | 0 | 26 | 0 | Norfolk.        | Wheat in sacks.  | 7,444 | 6,297 |
| Hellen.....           | 14   | 8  | 50 | 14 | 10 | 33 | 14 | 18 | 38 | 14 | 21 | 00 | Norwegian. | Brugsgaard Kisterud.          | San Francisco. | 52  | 0 | 25 | 0 | Queensstown.    | Barley.          | 6,909 | 5,730 |
| Kashu Maru.....       | 14   | 13 | 50 | 15 | 7  | 40 | 15 | 15 | 35 | 15 | 15 | 59 | Japanese.  | Kokutsu Kisen Kaisha.         | Portland.      | 53  | 0 | 24 | 0 | United King.    | Wheat.           | 7,177 | 6,011 |
| Balboa.....           | 15   | 0  | 05 | 15 | 8  | 11 | 15 | 16 | 55 | 16 | 15 | 00 | Swedish.   | Johnson Line.                 | Vancouver.     | 56  | 3 | 27 | 1 | Scandinavia.    | General.         | 8,183 | 7,480 |
| Bradford.....         | 14   | 6  | 30 | 15 | 8  | 53 | 15 | 16 | 50 | 15 | 16 | 50 | American.  | Standard Oil Co. of N. J.     | Tunasee.       | 54  | 0 | 20 | 0 | Baton Rouge.    | General.         | 8,183 | 7,480 |
| Jamaica.....          | 15   | 5  | 45 | 15 | 9  | 52 | 15 | 17 | 45 | 19 | 8  | 10 | British.   | Pacific Steam Navigation Co.  | Tunasee.       | 34  | 0 | 10 | 1 | Cartagena.      | General.         | 132   | 1,187 |
| Theodore.....         | 14   | 19 | 25 | 15 | 10 | 29 | 15 | 18 | 09 | 15 | 18 | 09 | Norwegian. | Fred Olsen & Co.              | San Francisco. | 55  | 2 | 28 | 0 | Christiana.     | General.         | 9,000 | 7,593 |
| Roosevelt.....        | 15   | 20 | 10 | 16 | 7  | 51 | 16 | 15 | 08 | 16 | 17 | 00 | American   | Grace Line.                   | Punatenas.     | 52  | 3 | 22 | 0 | New York.       | Nitrate and ore. | 4,600 | 6,910 |
| Cacque.....           | 16   | 1  | 00 | 16 | 8  | 25 | 16 | 15 | 58 | 16 | 21 | 40 | British    | New Zealand Shipping Co.      | Auckland.      | 54  | 2 | 24 | 6 | London.         | General.         | 3,953 | 7,876 |
| Parapara.....         | 16   | 7  | 15 | 16 | 9  | 03 | 16 | 16 | 15 |    |    |    | Chilean.   | South American Steamship Co.  | Valparaiso.    | 44  | 3 | 21 | 0 | Cristobal.      | General.         | 914   | 4,835 |
| Aysen.....            | 16   | 12 | 10 | 16 | 12 | 44 | 16 | 20 | 16 | 16 | 20 | 00 | Japanese.  | Yokohama.                     | Tampoco.       | 56  | 5 | 18 | 6 | Cristobal.      | Balbast.         | 9,146 | 6,385 |
| Kiyo Maru.....        | 16   | 12 | 50 | 16 | 13 | 45 | 16 | 21 | 20 | 17 | 12 | 01 | British.   | Nautlus Steamship Co.         | Yokohama.      | 470 | 0 | 18 | 0 | Liverpool.      | General.         | 4,873 | 4,161 |
| Palm Branch.....      | 16   | 14 | 30 | 17 | 7  | 05 | 17 | 14 | 30 | 18 | 6  | 04 | British.   | Pacific Steam Navigation Co.  | Valparaiso.    | 46  | 5 | 28 | 0 | New York.       | General.         | 2,029 | 4,768 |
| Quillota.....         | 16   | 21 | 30 | 17 | 7  | 46 | 17 | 15 | 00 | 17 | 16 | 58 | Danish.    | East Asiatic Co.              | Guayaquil.     | 55  | 2 | 28 | 6 | Copenhagen.     | General.         | 9,265 | 7,396 |
| Asia.....             | 16   | 21 | 30 | 17 | 7  | 46 | 17 | 15 | 00 | 17 | 16 | 58 | British.   | East Asiatic Co.              | San Francisco. | 55  | 2 | 28 | 6 | New York.       | Barley, general. | 9,265 | 7,396 |
| Acapulco.....         | 16   | 21 | 15 | 17 | 10 | 00 | 17 | 17 | 00 |    |    |    | American.  | Pacific Steam Navigation Co.  | Champerico.    | 33  | 0 | 13 | 6 | Cristobal.      | General.         | 237   | 1,273 |
| San C. 285.....       | 16   | 7  | 30 | 16 | 16 | 03 |    |    |    |    |    |    | American.  | United States Navy.           | Pedro Miguel.  | 11  | 0 | 16 | 0 | Cristobal.      | General.         | 237   | 1,273 |

7 Cruiser.

8 For orders.

9 Cold storage and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| Date.    | Vessel.        | *ARRIVALS.                       |                 |          | *DEPARTURES.     |                                  |                             |
|----------|----------------|----------------------------------|-----------------|----------|------------------|----------------------------------|-----------------------------|
|          |                | Line.                            | From—           | Date.    | Vessel.          | Line.                            | For—                        |
| Sept. 11 | Metapan.....   | United Fruit Co.                 | New Orleans.    | Sept. 11 | Metapan.....     | United Fruit Co.                 | Bocas del Toro.             |
| Sept. 11 | Caribbean..... | Panama Railroad Cattle Industry. | Cartagena.      | Sept. 12 | Asian.....       | Levyland Line                    | New Orleans.                |
| Sept. 12 | Heredia.....   | United Fruit Co.                 | New Orleans.    | Sept. 13 | P. de Saturnegui | Panama Railroad Cattle Industry. | Ponce via Colombia.         |
| Sept. 12 | Texas Oil Co.  | Pan American.                    | New Orleans.    | Sept. 14 | Caribbean.....   | Heredia                          | Puerto Colombia.            |
| Sept. 13 | San Gil.....   | United Fruit Co.                 | Boston.         | Sept. 14 | Heredia.....     | United Fruit Co.                 | New Orleans via Port Limon. |
| Sept. 13 | Tolosa.....    | United Fruit Co.                 | New York.       | Sept. 14 | San Gil.....     | United Fruit Co.                 | Limon.                      |
| Sept. 14 | Metapan.....   | United Fruit Co.                 | Bocas del Toro. | Sept. 14 | Metapan.....     | United Fruit Co.                 | Boston via Port Limon.      |
| Sept. 15 | Peru.....      | French Line.                     | St. Nazaire.    | Sept. 14 | St. Mhiel.....   | United States Army.              | New Orleans.                |
| Sept. 16 | Cristobal..... | Panama Railroad Steamship Line.  | Norfolk.        | Sept. 14 | St. Mhiel.....   | United States Army.              | New York.                   |

10 Tug.

(Continued on page 92, column 2.)

**Length, Beam, and Draft of Commercial Vessels in July.**

A classification of the commercial vessels passing through the Panama Canal in July, 1921, by length, beam, and salt water draft shows the following:

|                                | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | All<br>vessels. | Per cent<br>of all<br>vessels. |
|--------------------------------|----------------------------|----------------------------|-----------------|--------------------------------|
| <i>Length.</i>                 |                            |                            |                 |                                |
| Less than 100 feet.....        | 3                          | 2                          | 5               | 2.4                            |
| 100 to 200 feet.....           | 8                          | 2                          | 10              | 4.9                            |
| 200 to 300 feet.....           | 14                         | 16                         | 30              | 14.6                           |
| 300 to 400 feet.....           | 31                         | 37                         | 68              | 33.0                           |
| 400 to 500 feet.....           | 46                         | 41                         | 87              | 42.2                           |
| Over 500 feet.....             | 3                          | 3                          | 6               | 2.9                            |
| Total ships.....               | 105                        | 101                        | 206             | 100.0                          |
| Aggregate length (feet).....   | 37,466.0                   | 37,614.7                   | 75,080.7        | .....                          |
| Average length (feet).....     | 356.8                      | 372.4                      | 364.4           | .....                          |
| <i>Beam.</i>                   |                            |                            |                 |                                |
| Less than 30 feet.....         | 11                         | 5                          | 16              | 7.8                            |
| 30 to 40 feet.....             | 10                         | 14                         | 24              | 11.7                           |
| 40 to 50 feet.....             | 20                         | 21                         | 41              | 19.9                           |
| 50 to 60 feet.....             | 57                         | 50                         | 107             | 51.9                           |
| 60 to 70 feet.....             | 3                          | 11                         | 14              | 6.8                            |
| Over 70 feet.....              | 4                          | .....                      | 4               | 1.9                            |
| Total ships.....               | 105                        | 101                        | 206             | 100.0                          |
| Aggregate beam (feet).....     | 5,046.6                    | 5,002.7                    | 10,049.3        | .....                          |
| Average beam (feet).....       | 48.1                       | 49.5                       | 48.8            | .....                          |
| <i>Draft.</i>                  |                            |                            |                 |                                |
| Less than 15 feet.....         | 20                         | 14                         | 34              | 16.6                           |
| 15 to 20 feet.....             | 32                         | 21                         | 53              | 25.7                           |
| 20 to 25 feet.....             | 33                         | 33                         | 66              | 32.0                           |
| 25 to 30 feet.....             | 20                         | 31                         | 51              | 24.7                           |
| Over 30 feet.....              | .....                      | 2                          | 2               | 1.0                            |
| Total ships.....               | 105                        | 101                        | 206             | 100.0                          |
| Aggregate draft (feet).....    | 2,073.0                    | 2,164.1                    | 4,237.1         | .....                          |
| Average draft (feet).....      | 19.7                       | 21.4                       | 20.5            | .....                          |
| Vessel of greatest length..... | Feet.<br>517.0             | Feet.<br>530.4             |                 |                                |
| Vessel of greatest beam.....   | 72.0                       | 69.4                       |                 |                                |
| Vessel of greatest draft.....  | 28.1                       | 30.9                       |                 |                                |

**Length, Beam, and Draft of Commercial Vessels in August.**

A classification of the commercial vessels passing through the Panama Canal in August, 1921, by length, beam, and salt water draft shows the following:

|                              | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | All<br>vessels. | Per cent<br>of total<br>vessels. |
|------------------------------|----------------------------|----------------------------|-----------------|----------------------------------|
| <i>Length.</i>               |                            |                            |                 |                                  |
| Less than 100 feet.....      | 4                          | 3                          | 7               | 3.0                              |
| 100 to 200 feet.....         | 3                          | 3                          | 6               | 2.6                              |
| 200 to 300 feet.....         | 14                         | 14                         | 28              | 11.8                             |
| 300 to 400 feet.....         | 41                         | 36                         | 77              | 32.6                             |
| 400 to 500 feet.....         | 55                         | 58                         | 113             | 47.9                             |
| Over 500 feet.....           | 3                          | 2                          | 5               | 2.1                              |
| Total ships.....             | 120                        | 116                        | 236             | 100.0                            |
| Aggregate length (feet)..... | 44,352.0                   | 43,407.0                   | 87,759.0        | .....                            |
| Average length (feet).....   | 369.6                      | 374.2                      | 371.9           | .....                            |
| <i>Beam.</i>                 |                            |                            |                 |                                  |
| Less than 30 feet.....       | 7                          | 5                          | 12              | 5.1                              |
| 30 to 40 feet.....           | 9                          | 9                          | 18              | 7.6                              |
| 40 to 50 feet.....           | 23                         | 25                         | 48              | 20.3                             |
| 50 to 60 feet.....           | 74                         | 70                         | 144             | 61.0                             |
| 60 to 70 feet.....           | 6                          | 6                          | 12              | 5.1                              |
| Over 70 feet.....            | 1                          | 1                          | 2               | 0.9                              |
| Total ships.....             | 120                        | 116                        | 236             | 100.0                            |
| Aggregate beam (feet).....   | 5,921.8                    | 5,838.7                    | 11,760.5        | .....                            |
| Average beam (feet).....     | 49.3                       | 50.3                       | 49.8            | .....                            |

|                                | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | All<br>vessels. | Per cent<br>of total<br>vessels. |
|--------------------------------|----------------------------|----------------------------|-----------------|----------------------------------|
| <i>Draft.</i>                  |                            |                            |                 |                                  |
| Less than 15 feet.....         | 23                         | 10                         | 33              | 14.0                             |
| 15 to 20 feet.....             | 37                         | 18                         | 55              | 23.3                             |
| 20 to 25 feet.....             | 32                         | 45                         | 77              | 32.6                             |
| 25 to 30 feet.....             | 28                         | 42                         | 70              | 29.6                             |
| Over 30 feet.....              |                            | 1                          | 1               | 0.5                              |
| Total ships.....               | 120                        | 116                        | 236             | 100.0                            |
| Aggregate draft (feet).....    | 2,377.7                    | 2,586.4                    | 4,964.1         | .....                            |
| Average draft (feet).....      | 19.8                       | 22.3                       | 21.0            | .....                            |
|                                | <i>Fert.</i>               | <i>Feet.</i>               |                 |                                  |
| Vessel of greatest length..... | 518.0                      | 511.6                      |                 |                                  |
| Vessel of greatest beam.....   | 72.0                       | 78.8                       |                 |                                  |
| Vessel of greatest draft.....  | 29.0                       | 31.0                       |                 |                                  |

### Swedish Shipping and the Panama Canal.<sup>1</sup>

The number of Swedish vessels using the Canal each fiscal year since it was first opened to navigation is shown below:

| Fiscal year. | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total. |
|--------------|----------------------------|----------------------------|--------|
| 1915.....    | 8                          | 10                         | 18     |
| 1916.....    | 5                          | 8                          | 13     |
| 1917.....    | 7                          | 11                         | 18     |
| 1918.....    | 12                         | 14                         | 26     |
| 1919.....    | 12                         | 17                         | 29     |
| 1920.....    | 10                         | 9                          | 19     |
| 1921.....    | 15                         | 10                         | 25     |
| Totals.....  | 69                         | 79                         | 148    |

The number of ships was greatest in the two last years of the war, but the difference was not so marked as in the case of Norwegian and Danish shipping. The traffic of the fiscal year 1921 was distributed as follows:

SWEDISH SHIPPING USING THE PANAMA CANAL DURING THE FISCAL YEAR, 1921; SEGREGATION BY TRADE ROUTES.

|                                                 | Vessels. | Cargo<br>tons. |
|-------------------------------------------------|----------|----------------|
| Europe to the west coast of South America.....  | 6        | 16,903         |
| West coast of South America to Europe.....      | 1        | 5,700          |
| Europe to the west coast of North America.....  | 2        | 5,127          |
| West coast of North America to Europe.....      | 9        | 61,952         |
| East coast of United States to Australasia..... | 6        | 39,237         |
| Europe to Australasia.....                      | 1        | .....          |
| Totals.....                                     | 25       | 128,919        |

Of the 6 vessels sailing to Australasia from the United States 3 carried coal cargoes from Norfolk and 3 sulphur cargoes from Gulf ports. All of these vessels belonged to the Swedish Transatlantic Steamship Company. All of the vessels in the trade between Europe and the west coast of the two Americas, with two exceptions, belonged to the Johnson Line (Rederiaktiebolaget Nordstjernan).

### Chilean Shipping and the Panama Canal.<sup>2</sup>

Chilean vessels made only 63 transits through the Panama Canal during the fiscal year 1921, as compared with 79 in 1920 and 93 in 1919. A similar decline was noted in the case of Peruvian shipping. In both cases the commercial depression of the past year is the

<sup>1</sup> This is the sixth of a series of articles on trade through the Panama Canal under different national flags. Those previously published concerned American, British, Japanese, Norwegian, and Danish shipping.

<sup>2</sup> This is the seventh of a series of articles on trade through the Panama Canal under different national flags. Those previously published concerned American, British, Japanese, Norwegian, Danish, and Swedish shipping.

obvious cause, aggravated, as concerns Chile, by stagnation in the nitrate trade upon which the country is peculiarly dependent. The detailed record of the past 7 years is shown in the table below:

| Fiscal year. | Atlantic to Pacific. | Pacific to Atlantic. | Total. |
|--------------|----------------------|----------------------|--------|
| 1915.....    | 16                   | 19                   | 35     |
| 1916.....    | 16                   | 17                   | 33     |
| 1917.....    | 50                   | 49                   | 99     |
| 1918.....    | 50                   | 46                   | 96     |
| 1919.....    | 48                   | 45                   | 93     |
| 1920.....    | 38                   | 41                   | 79     |
| 1921.....    | 40                   | 23                   | 63     |
| Totals.....  | 258                  | 240                  | 498    |

Of the 40 vessels southbound last year 25 were owned by the Compañía Sudamericana de Vapores (Chilean Line), 4 were naval vessels, 4 were colliers and supply ships operated by the Chilean Government, 2 were Grace Line tugs, and the remaining 5 belonged to various owners. Of the 23 northbound vessels the Chilean Line owned 22 and the Chilean Government 1.

Of the southbound vessels carrying cargo 22 were from Cristobal to Chile with 13,000 tons, 1 from the United Kingdom to Chile with 650 tons, 8 from the United States to Chile with 29,517 tons, and 1 from Barbados to Chile with 2,500 tons. Of the northbound vessels carrying cargo, 20 were from Chile to Cristobal with 9,735 tons, and 2 from Chile to the United States with 6,335 tons. The total southbound cargo was 45,667 tons, and the total northbound cargo 16,070 tons.

The Chilean Line vessels carry passengers as well as cargo.

An interesting feature, and one deemed of sufficient importance to be mentioned in the annual message of the President of Chile, was an initial shipment of fresh fruit in cold storage from Valparaiso to New York. As the Chilean summer corresponds with the winter of the northern hemisphere, hopes are entertained that Chile can supply the New York market with fresh fruit at a time when none can be had from other sources of supply.

#### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended September 17:

Collier *Achilles*, manufacture and install new plug piston in starboard H. P. cylinder; fit 1 set of snap rings and furnish 1 set of spares; manufacture 1 governor weight for turbo generator; repair 1 indicator and 2 gauges; manufacture and install control valve; clean water side of boilers and sweep tubes; repair lifeboat bottom and air tanks; install braces on awning stanchions; repair galley stove and baker's oven; manufacture griddle iron and repair skylight lever; remove, clean, and replace sea valve strainers; repair rope guard; true up starboard H. P. piston rod and refit taper end to crosshead; refit crosshead slipper bolts and install dowels; calk shell seams on starboard No. 7 tank; weld starboard and bottom butt on after-shoe plate; manufacture new wireless spar; build up starboard reversing valve and face off seat; calk leaky rivets on forepeak tank shell plates; electric-weld rivets and cracks on after-peak tank; tug *Cocoli*, perform light repairs on dynamo engine and water pump; steamship *Bradford*, straighten eccentric rod and fit strap.

#### PREVIOUSLY REPORTED.

U. S. submarines *O-15*, dock, stage, clean, and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; *O-16*, dock, stage, clean, and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; steamship *Panama*, reboiling and general overhaul to machinery and hull; tug *Mariner*, dock, stage, clean and paint bottom; launch *Pacific*, general repairs to hull; barges *No. 176*, dock, stage, clean and paint bottom; *No. 194*, dock, stage, clean and paint bottom.



The following vessels were at the Cristobal shops for repairs during the week ended September 19:

Steamships *Colon*, make new eccentric strap and valve stem for blower engine; manufacture 1 set of wrist pin brasses and pin; make 4 keys for blower engine; repair air casing on both port boilers; locate and repair leak in fresh water line, No. 2 hold; test 2 ammonia gauges; *Cristobal*, machine bull ring to suit new snap rings; install water shed over oil discharge pipe; calk pilot house top and bridge shelter; repair flanges on hatch strongbacks and miscellaneous steward department repairs; *Acajulla*, dock and undock, clean and paint bottom; overhaul anchor shackles as directed; U. S. S. P. 1841, dock and undock; clean and paint bottom; remove present forecastle deck and replace with wooden deck; remove smokestack; renew housing over engine and fire rooms, install 1 hatch cover; install towing bits and cleats; make and fit towing bridle, etc.; U. S. S. *Patuxent*, repair 8 KW reciprocating dynamo; weld broken piece at top of cylinder; straighten connecting rod and machine; manufacture, fit, and install crosshead brasses, bolts and gibs; manufacture, fit, and install cast-iron cylinder liner; line up dynamo and engine, etc.; U. S. S. *Caesar*, rebore or manufacture and install new liners in water end of main feed pump; manufacture and install piston rods; manufacture, fit, and install piston rod packing gland on H. P. cylinder, main engine; furnish and install 2 gate valves as directed; steamship *Hattie Luckenbach*, dredge *Marshal Foch*, launch *Garcoyle*, minor repairs.

## PREVIOUSLY REPORTED.

U. S. S. *Eagle No. 31*, overhaul sea valves and zincs; motor ship *Satoe*, general overhauling, including dry-docking; steamship *Toedjoe*, install bulwarks; alter crew accommodations, etc.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending September 17, 1921.

| Name of vessel.        | Line or charterer.                    | Arrived.          | Departed.         | Cargo—     |        |
|------------------------|---------------------------------------|-------------------|-------------------|------------|--------|
|                        |                                       |                   |                   | Discharged | Laded. |
|                        |                                       |                   |                   | Tons.      | Tons.  |
| Newport.....           | Pacific Mail Steamship Co.....        |                   | September 14..... |            | 1,801  |
| Asian.....             | Leyland Line.....                     |                   | September 12..... |            | 239    |
| Huallaga.....          | Peruvian Line.....                    |                   | September 14..... |            | 410    |
| Manavi.....            | Pacific Steam Navigation Co.....      |                   | September 14..... |            | 36     |
| Balboa.....            | Colombian Maritime Co.....            |                   | September 12..... |            |        |
| St. Mihiel.....        | United States Army.....               |                   | September 14..... |            | 72     |
| San Bruno.....         | United Fruit Co.....                  |                   | September 10..... |            |        |
| Laura C. Hall.....     | Pacific Metals Transportation Co..... |                   | September 12..... |            | 19     |
| P. de Satrustegui..... | Spanish Line.....                     | September 11..... | September 12..... | 113        | 4,393  |
| Caribbean.....         | Panama Railroad Cattle Industry.....  | September 11..... | September 13..... | 301        | 31     |
| Gen. W. C. Gorgas..... | Panama Railroad Steamship Line.....   | September 11..... | September 15..... | 1,576      | 1,532  |
| Heredia.....           | United Fruit Co.....                  | September 12..... | September 14..... | 541        | 6      |
| Noorderdijk.....       | Royal Netherlands W. I. Mail.....     | September 13..... | September 13..... | 50         | 25     |
| Tolosa.....            | United Fruit Co.....                  | September 13..... | September 14..... | 317        | 23     |
| San Gil.....           | United Fruit Co.....                  | September 13..... | September 14..... | 15         | 205    |
| Metapan.....           | United Fruit Co.....                  | September 14..... | September 14..... | 3          | 5      |
| Garfield.....          | W. R. Grace & Co.....                 | September 15..... | September 15..... | 143        |        |
| Oriana.....            | Royal Mail Steamship Co.....          | September 15..... | September 15..... | 2          | 95     |
| Jamaica.....           | Pacific Steam Navigation Co.....      | September 15..... |                   | 134        |        |
| Perou.....             | Cia. Generale Transatlantique.....    | September 15..... | September 17..... | 27         | 637    |
| Aysen.....             | Compania Sudamericana Vapores.....    | September 16..... |                   | 914        |        |
| Cristobal.....         | Panama Railroad Steamship Line.....   | September 16..... |                   | 9,606      |        |
| Colon.....             | Panama Railroad Steamship Line.....   | September 17..... |                   | 203        |        |
| Camito.....            | United Fruit Co.....                  | September 17..... | September 17..... | 15         | 3      |

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending September 17, 1921.

| Name of vessel.         | Line or charterer.                    | Arrived.          | Departed.         | Cargo—     |        |
|-------------------------|---------------------------------------|-------------------|-------------------|------------|--------|
|                         |                                       |                   |                   | Discharged | Laded. |
|                         |                                       |                   |                   | Tons.      | Tons.  |
| Laura C. Hall.....      | Pacific Metals Transportation Co..... | September 12..... | September 13..... |            | 69     |
| Theodore Roosevelt..... | Fred Olsen & Co.....                  | September 14..... | September 15..... | 165        |        |
| Newport.....            | Pacific Mail Steamship Co.....        | September 15..... | September 15..... |            | 3      |
| Quillota.....           | Pacific Steam Navigation Co.....      | September 16..... | September 17..... | 7          |        |

### Coal at St. Thomas.

The following has been received from the Government Secretary of the Virgin Islands of the United States:

As a matter of information, and for such publication as you may think proper, the Governor of the Virgin Islands directs me to inform you that a firm operating a coaling hulk in the harbor of St. Thomas, has stated that they are willing to meet all comers at \$13.25, U. S. currency, per ton.

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### Executive Order.

#### Authorizing the Extension of Passports Issued Prior to June 4, 1920.

By virtue of the authority vested in me by Section 4075 of the Revised Statutes of the United States, as amended by the Act of Congress approved June 14, 1902, and with reference to the provisions of Section 3 of the Act of Congress of June 4, 1920, entitled, "An Act making appropriations for the diplomatic and consular service for the fiscal year ending June 30, 1921," I hereby authorize the Secretary of State directly or through diplomatic, consular or other officers of the United States, or chief or other executive officers of the insular possessions of the United States to extend passports issued prior to June 4, 1920, so that they may be valid for a period not to exceed two years from the date of issuance.

WARREN G. HARDING.

THE WHITE HOUSE,

August 16, 1921.

[No. 3535.]

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### October Weather Probabilities.

During the month of October, 1921, the following weather conditions may be expected at the Canal entrances. Predictions are based on the records at Colon and Balboa Heights for the past 14 and 15 years, respectively.

*Winds*—Light, variable winds will prevail over the Atlantic coast with an average hourly velocity of about 7 miles. The prevailing direction of the wind is usually from the southeast, although a considerable percentage of west and northwest winds may be expected during the month. A maximum velocity of from 30 to 38 miles an hour may be expected during the passage of local rain or thunder squalls.

Over the Pacific coast and the interior, light northwest winds will prevail with an average hourly velocity of about 6 miles. Here, too, during occasional rain or thunder squalls, the maximum velocity of the wind may exceed 30 miles an hour, but these wind storms are invariably of short duration.

*Rain*—The average October rainfall at the Atlantic entrance of the Canal is 15.07 inches, and on the Pacific side 10.17 inches, these averages being for periods of 51 and 24 years, respectively. About 25 days with rain may be expected on the Atlantic coast, and 22 on the Pacific coast, while the average number of days with heavy rain (1 inch or more) has been 6 at the Atlantic entrance and 3 at the Pacific. Throughout the length of the Canal, the greatest part of the rainfall occurs during the daytime, the heaviest rainfall generally occurring between the hours of 1 p. m. and 4 p. m. However, at this season of the year, the percentage of daytime rainfall is higher over the interior and Pacific coast than over the Atlantic coast, and heavy rainfall may be expected on the Atlantic side during the early morning hours. Over both coasts the time of least rainfall is from 8 to 9 a. m.

*Fogs*—No fogs are likely to occur at either Canal entrance, but night and early morning fogs will be numerous over the interior. About 25 nights with fog may be expected over the Gaillard Cut section of the Canal, but as all fogs lift or are dissipated before 8.30 a. m., they should not prove a hindrance to navigation.

*Temperature*—The average shade air temperature will be about 79° F. on both coasts. On the Atlantic coast the temperature is not likely to rise above 90° F., or fall lower than 70° F., while on the Pacific side the maximum temperature may be as high as 94° F., and the minimum as low as 68° F. The mean daily range of temperature will be about 10° F. on the Atlantic coast and 14° F. on the Pacific coast.

*Barometric pressure*—The average sea-level atmospheric pressure will be approximately 29.85 inches over both coasts. The maximum pressure for the month is not likely to exceed 29.95 inches, or the minimum to be lower than 29.70 inches.

*Relative humidity*—The humidity of the atmosphere should average about 87 per cent over both coasts. The daily range in humidity is greater on the Pacific coast than on the Atlantic side, the average nighttime humidity being higher and the midday

humidity lower than on the Atlantic side. The figures for years of record are 94 and 74, on the Pacific side, and 92 and 78 on the Atlantic.

**Storms**—The Isthmus is seldom visited by violent or widespread atmospheric disturbances although rain, wind, or thunder storms of more or less limited extent are of common occurrence, and may be expected quite frequently during the month. Rough weather may be experienced occasionally to the northward of the Atlantic entrance, as this is the season of the West Indian hurricane. The path of these storms lies well to the northward of the Isthmus, but a rough sea accompanied by brisk winds may be expected outside the breakwater, following the passage of one of these storms. Generally cloudy weather will continue over both coasts, and smooth seas are usually experienced at the Pacific entrance during the month of October.

**Tides**—Tidal fluctuations on the Atlantic side do not affect navigation, as the extreme tidal range at Colon is less than 2 feet.

Panama (Balboa) tide predictions for the month are presented in the following table:

| Day of-<br>W. Mo. |    | Time and Height of High<br>and Low Water. |            | Day of-<br>W. Mo. |    | Time and Height of High<br>and Low Water. |            | Day of-<br>W. Mo. |    | Time and Height of High<br>and Low Water. |            |
|-------------------|----|-------------------------------------------|------------|-------------------|----|-------------------------------------------|------------|-------------------|----|-------------------------------------------|------------|
| S                 | 1  | 3:03 9:28                                 | 3:29 9:49  | W                 | 12 | 0:12 6:27                                 | 12:43 6:55 | S                 | 23 | 1:48 7:44                                 | 2:13 8:16  |
|                   |    | 17.1 -0.4                                 | 17.2 -0.6  |                   |    | 12.4 5.0                                  | 12.2 4.6   |                   |    | 2.6 15.0                                  | 2.2 14.6   |
| S                 | 2  | 3:51 10:13                                | 4:18 10:32 | Th                | 13 | 1:12 7:26                                 | 1:34 7:50  | M                 | 24 | 2:47 8:40                                 | 3:15 9:14  |
|                   |    | 17.8 -1.1                                 | 17.6 -1.0  |                   |    | 13.0 4.4                                  | 12.9 4.0   |                   |    | 3.2 14.2                                  | 2.8 14.0   |
| M                 | 3  | 4:37 10:57                                | 5:04 11:13 | F                 | 14 | 1:53 8:15                                 | 2:16 8:36  | Tu                | 25 | 3:55 9:48                                 | 4:23 10:31 |
|                   |    | 17.9 -1.4                                 | 17.6 -0.8  |                   |    | 13.8 3.5                                  | 13.6 3.3   |                   |    | 3.5 13.6                                  | 3.1 13.9   |
| Tu                | 4  | 5:23 11:38                                | 5:49 11:55 | S                 | 15 | 2:31 8:57                                 | 2:55 9:15  | W                 | 26 | 5:04 11:10                                | 5:33 11:49 |
|                   |    | 17.7 -1.1                                 | 17.2 -0.2  |                   |    | 14.5 2.6                                  | 14.3 2.5   |                   |    | 3.5 13.6                                  | 3.1 14.3   |
| W                 | 5  | 6:07 12:20                                | 6:32 ..... | S                 | 16 | 3:08 9:35                                 | 3:33 9:53  | Th                | 27 | 6:14 12:25                                | 6:40 ..... |
|                   |    | 17.1 -0.4                                 | 16.5 ..... |                   |    | 15.1 1.6                                  | 14.9 1.8   |                   |    | 2.9 14.1                                  | 2.6 .....  |
| Th                | 6  | 0:35 6:49                                 | 1:04 7:16  | M                 | 17 | 3:46 10:09                                | 4:08 10:26 | F                 | 28 | 0:55 7:20                                 | 1:27 7:43  |
|                   |    | 0.8 16.2                                  | 0.7 15.5   |                   |    | 15.7 1.0                                  | 15.3 1.3   |                   |    | 15.0 2.1                                  | 15.0 1.9   |
| F                 | 7  | 1:23 7:32                                 | 1:52 8:00  | Tu                | 18 | 4:19 10:44                                | 4:44 11:02 | S                 | 29 | 1:50 8:18                                 | 2:21 8:39  |
|                   |    | 2.0 15.2                                  | 2.0 14.4   |                   |    | 16.0 0.5                                  | 15.6 1.1   |                   |    | 15.9 1.1                                  | 15.8 1.2   |
| S                 | 8  | 2:14 8:18                                 | 2:44 8:47  | W                 | 19 | 4:57 11:20                                | 5:22 11:37 | S                 | 30 | 2:41 9:10                                 | 3:11 9:29  |
|                   |    | 3.3 14.0                                  | 3.2 13.4   |                   |    | 16.2 0.3                                  | 15.8 1.1   |                   |    | 16.6 0.2                                  | 16.4 0.5   |
| S                 | 9  | 3:11 9:06                                 | 3:43 9:46  | Th                | 20 | 5:34 11:56                                | 6:01 ..... | M                 | 31 | 3:30 9:55                                 | 3:59 10:12 |
|                   |    | 4.4 12.8                                  | 4.2 12.5   |                   |    | 16.2 0.4                                  | 15.7 ..... |                   |    | 17.1 -0.5                                 | 16.8 0.1   |
| M                 | 10 | 4:16 10:12                                | 4:48 11:00 | F                 | 21 | 0:16 6:14                                 | 12:35 6:42 |                   |    |                                           |            |
|                   |    | 5.1 12.0                                  | 4.7 12.1   |                   |    | 1.4 16.0                                  | 0.8 15.5   |                   |    |                                           |            |
| Tu                | 11 | 5:22 11:34                                | 5:53 ..... | S                 | 22 | 0:58 6:56                                 | 1:21 7:26  |                   |    |                                           |            |
|                   |    | 5.3 11.8                                  | 4.9 .....  |                   |    | 1.9 15.6                                  | 1.4 15.1   |                   |    |                                           |            |

The tides are placed in the order of their occurrence; the *times* of high and low tides are shown on the upper lines. The figures in boldfaced type are hours and elevations between noon and midnight; *ante meridian* figures are given in the ordinary lightfaced type. The time is Cosmopolitan Standard for the meridian 75° W.

The *elevations* of the water are shown on the second line for each day; a comparison of consecutive heights will indicate whether it is high or low water. Heights are reckoned from mean low water springs, which is 8.3 below mean sea level and is the datum of soundings on the Coast and Geodetic Survey charts for this region. The depth of water may accordingly be estimated by adding the tabular height of the tide to the soundings, unless a minus (-) sign is before the height, in which case it is to be subtracted. The annual inequality or variation in the mean sea level is included in the predictions.

#### Deceased Employees.

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

| Name.                 | Check No. | Native of—       | Isthmian residence. | Employed by—            | Date of death.      |
|-----------------------|-----------|------------------|---------------------|-------------------------|---------------------|
| Rupert Nichols .....  | 21035     | Barbados .....   | Panama .....        | Quartermaster .....     | August 26, 1921.    |
| Pedro Rodrigues ..... | 47936     | Costa Rica ..... | Colon .....         | Panama Railroad .....   | August 30, 1921.    |
| Francis Davis .....   | 21220     | Jamaica .....    | Red Tank .....      | Supply Department ..... | August 31, 1921.    |
| Robert Herman .....   | 33901     | St. Lucia .....  | Panama .....        | Dredging Division ..... | September 9, 1921.  |
| Jose Morales .....    | 45491     | Panama .....     | Miraflores .....    | Cattle Industry .....   | September 13, 1921. |



## Official Circular.

### Appointment.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., September 12, 1921.  
CIRCULAR No. 661-102:

Mr. Horace D. Ridenour was appointed Marshal of the Canal Zone by the President on August 19, 1921, and qualified for office on August 27, 1921, *vice* Mr. Miguel A. Otero, resigned, effective August 26, 1921.

M. L. WALKER,  
*Acting Governor.*

### Current Net Prices on Coal, Fuel Oil, and Beef.

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$15 per ton of 2,240 pounds at Cristobal and \$17 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$15 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or more, the price is \$16 per ton at Cristobal, \$18 at Balboa.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$2.75 per barrel of 42 gallons.

Diesel oil is sold at \$4 per barrel. Cable arrangements should be made in advance of arrival of vessel.

The following are current prices on fresh beef sold from the cold storage plant of the Canal. Prices quoted are United States currency, per pound net:

Beef hinds, 18 cents; beef fores, 13½ cents; beef ribs, entire set, 17 cents; short loins, 24 cents. This beef is from Colombian cattle slaughtered on the Isthmus.

### Hogs For Sale.

The following hog stock is offered for sale, f.o.b. the Margarita hog farm:

6 grade boars, three-quarters Duroc, 1 year old.

14 grade boars, bred from three-quarters Duroc sow and full-blooded Hampshire boars, from 3 to 6 months old.

3 boars, seven-eighths Duroc, 4 to 5 months old.

For further information inquire at the Cattle Industry office in Cristobal.

### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10" dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

### Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

### Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama," in the United States, "Pancanal, Washington."

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 85.

PORT OF CRISTOBAL.—Continued.

| *ARRIVALS.      |                   |                                 |                     | *DEPARTURES.                     |                    |                                 |                         |
|-----------------|-------------------|---------------------------------|---------------------|----------------------------------|--------------------|---------------------------------|-------------------------|
| Date.           | Vessel.           | Line.                           | From—               | Date.                            | Vessel.            | Line.                           | For—                    |
| Sept. 16        | Colon             | Panama Railroad Steamship Line. | New York via Haiti. | Sept. 14                         | Tolba              | United Fruit Co.                | New York via Puerto Co- |
| Sept. 16        | Oscar D. Bennett. | Pan-American Pet. & Transp. Co. | Tampico.            | Sept. 14                         | Pan American       | Texas Oil Co.                   | lombia.                 |
| Sept. 17        | Camito            | Elders & Fyffes, Ltd.           | Port Limon.         | Sept. 14                         | Ulysses            | Panama Railroad Steamship Line. | Port Arthur, Tex.       |
|                 |                   |                                 |                     | Sept. 14                         | Gen. W. C. Gorgas. | Norfolk.                        | New York via Haitian    |
|                 |                   |                                 |                     | Sept. 15                         | Camito             | Elders & Fyffes, Ltd.           | ports.                  |
|                 |                   |                                 |                     | Sept. 17                         |                    |                                 | Kingston.               |
| PORT OF BALBOA. |                   |                                 |                     | General Steamship Corp. (S. B.). |                    |                                 |                         |
| Sept. 12        | Jeptha            |                                 | Grays Harbor.       | Sept. 12                         | Jeptha             |                                 | Callao.                 |
| Sept. 17        | Libia             |                                 | Guayaquil.          |                                  |                    |                                 |                         |

\* Other than ships passing through the Canal.



# THE PANAMA CANAL RECORD

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The Panama Canal, Washington, D. C.

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Volume XV. Balboa Heights, C. Z., September 28, 1921. No. 7.

## CANAL WORK IN AUGUST.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of August, 1921:

BALBOA HEIGHTS, C. Z., September 20, 1921.

*The Honorable, the Secretary of War,*  
*Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of August, 1921.

### CANAL TRAFFIC.

Commercial traffic through the Panama Canal during the month of August was greater than for any month since March, 1921. The month of March established a high record in tonnage of vessels and tolls earned, but in the months following March there was a distinct decline, a part of the general business and marine depression over the world.

The extent of this decline in the Canal traffic, and of the recovery in August, are indicated in the following summary of the traffic through the Canal during the past 6 months:

| 1921.       | Number of ships. | Panama Canal net tonnage. | Registered gross tonnage. | Tolls.         | Tons of cargo. |
|-------------|------------------|---------------------------|---------------------------|----------------|----------------|
| March.....  | 255              | 1,112,818                 | 1,417,220                 | \$1,105,536.55 | 1,084,563      |
| April.....  | 227              | 955,503                   | 1,203,087                 | 927,977.09     | 907,613        |
| May.....    | 210              | 864,617                   | 1,092,602                 | 835,882.77     | 792,735        |
| June.....   | 192              | 761,477                   | 960,857                   | 751,964.12     | 694,720        |
| July.....   | 206              | 810,613                   | 1,022,802                 | 804,503.11     | 708,982        |
| August..... | 236              | 965,276                   | 1,219,817                 | 955,380.78     | 839,273        |

The total number of vessels and craft of all kinds through the Panama Canal, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                            | August, 1921. | July, 1921. | August, 1920. |
|--------------------------------------------|---------------|-------------|---------------|
| Commercial vessels.....                    | 236           | 206         | 266           |
| United States Government vessels.....      | 31            | 23          | 30            |
| Panaman Government vessels.....            | 7             | 5           | 5             |
| Launches (nonseagoing, under 10 tons)..... | 7             | 3           | 5             |
| Total vessels and craft through Canal..... | 274           | 237         | 301           |

### COMMERCIAL TRAFFIC.<sup>1</sup>

A comparison of the commercial traffic for August, 1921, with that of the preceding month, of the corresponding month of 1920, and of the average month's traffic for the past 12 months, shows the following:

|                                           | August, 1921. | July, 1921.  | August, 1920. | Average per month for past year. |
|-------------------------------------------|---------------|--------------|---------------|----------------------------------|
| United States equivalent net tonnage..... | 792,442       | 652,439      | 782,415       | 775,057                          |
| Panama Canal net tonnage.....             | 965,276       | 810,613      | 951,345       | 948,635                          |
| Registered gross tonnage.....             | 1,219,817     | 1,022,802    | 1,208,471     | 1,203,957                        |
| Registered net tonnage.....               | 780,945       | 650,368      | 770,320       | 766,440                          |
| Tolls earned.....                         | \$955,380.78  | \$804,503.11 | \$936,209.44  | \$938,187.69                     |
| Tons of cargo carried.....                | 839,273       | 708,982      | 1,040,740     | 934,993                          |

<sup>1</sup> Commercial traffic includes all vessels of 10 tons or more transiting the Panama Canal, with the exception of vessels owned or chartered by the Government to carry Government supplies.

Ocean-going commercial vessels passing through the Canal averaged 7.6 ships per day. The average tonnage, tolls, and tons of cargo carried, per commercial vessel, as compared with last month's traffic, and with August, 1920, were as follows:

| Average per vessel.                       | August, 1921. | July, 1921. | August, 1920. |
|-------------------------------------------|---------------|-------------|---------------|
| United States equivalent net tonnage..... | 3,358         | 3,167       | 2,941         |
| Panama Canal net tonnage.....             | 4,090         | 3,935       | 3,576         |
| Registered gross tonnage.....             | 5,169         | 4,965       | 4,543         |
| Registered net tonnage.....               | 3,309         | 3,157       | 2,896         |
| Tolls.....                                | \$4,048.22    | \$3,905.35  | \$3,493.32    |
| Tons of cargo (all vessels).....          | 3,556         | 3,441       | 3,972         |
| Tons of cargo (laden vessels only).....   | 4,217         | 3,961       | 4,752         |

#### TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

While all cargo-carrying vessels pay tolls on their net tonnage, as determined by established rules for measuring their available cargo-carrying space, yet the rate of such tolls per cargo ton furnishes interesting data, varying as it does not only in different ships, but in vessels of different nationalities.

The average rate of tolls paid on each ton (2,240 pounds) of cargo passing through the Panama Canal from the Atlantic to the Pacific was \$1.18 and from the Pacific to the Atlantic, \$0.88 per ton, with a general average of \$0.99 per ton. The average rate paid per cargo ton, by nationality of vessels, is shown in the following statement:

|                                            | Atlantic to Pacific. | Pacific to Atlantic. | General average. |
|--------------------------------------------|----------------------|----------------------|------------------|
| British.....                               | \$1.31               | \$1.28               | \$1.29           |
| Chilean.....                               | 2.23                 | 1.53                 | 1.72             |
| Danish.....                                | 1.55                 | .65                  | .75              |
| Dutch.....                                 | .73                  | .65                  | .66              |
| French.....                                | 36.29                | .81                  | 1.47             |
| Japanese.....                              | .97                  | .70                  | .78              |
| Norwegian.....                             | 1.68                 | .67                  | .85              |
| Peruvian.....                              | 8.25                 | 1.03                 | 1.77             |
| Swedish.....                               | .79                  |                      | .79              |
| United States.....                         | 1.08                 | .84                  | .93              |
| Average rate, all ships, August, 1921..... | 1.18                 | .88                  | .99              |
| Average rate, all ships, July, 1921.....   | 1.44                 | .83                  | 1.05             |
| Average rate, all ships, June, 1921.....   | 1.11                 | .93                  | 1.02             |

The difference in the rate of tolls paid per cargo ton, by vessels of various nationalities is due to some vessels being but lightly loaded while others are carrying capacity cargoes. This also accounts for the variation in the rates per cargo ton as between northbound and southbound cargo for ships of the same nationality.

The lowest rate of tolls per cargo ton paid by any vessel passing through the Panama Canal during the month of August, 1921, was paid by the steamship *North American*, British registry, bound from Valparaiso to New York, and carrying 3,200 tons of nitrate and copper ore, on which tolls of \$1,495 were assessed, or a rate of 46.7 cents per cargo ton.

#### COMMODITY STATISTICS.

A classification of all cargo passing through the Panama Canal during the month of August, 1921, by commodities, giving the origin and destination of the same, has been previously compiled and was published in THE PANAMA CANAL RECORD under date of September 21, 1921. A brief summary of the principal items is shown herewith:

#### CARGO PASSING FROM ATLANTIC TO PACIFIC.

| Commodity.             | August, 1921. |                          | July, 1921. |                          |
|------------------------|---------------|--------------------------|-------------|--------------------------|
|                        | Cargo tons.   | Per cent of total cargo. | Cargo tons. | Per cent of total cargo. |
| Oils:                  |               |                          |             |                          |
| Crude.....             | 36,454        | 21.2                     | 14,491      | 11.7                     |
| Refined.....           | 28,685        |                          | 15,635      |                          |
| Other.....             | 2,117         |                          |             |                          |
| Manufactured goods:    |               |                          |             |                          |
| Iron and steel.....    | 28,373        | 11.5                     | 52,574      | 28.7                     |
| Machinery.....         | 3,695         |                          | 6,043       |                          |
| Railroad material..... | 2,796         |                          | 8,222       |                          |
| Other.....             | 1,821         |                          | 7,175       |                          |

## CARGO PASSING FROM ATLANTIC TO PACIFIC—continued.

| Commodity.             | August, 1921. |                          | July, 1921. |                          |
|------------------------|---------------|--------------------------|-------------|--------------------------|
|                        | Cargo tons.   | Per cent of total cargo. | Cargo tons. | Per cent of total cargo. |
| Cotton, raw.....       | 34,482        | 10.8                     | 26,083      | 10.1                     |
| Coal and coke.....     | 24,066        | 7.6                      | 8,258       | 3.2                      |
| Sulphur.....           | 19,350        | 6.1                      |             |                          |
| Sugar.....             | 7,145         | 2.3                      |             |                          |
| Ammonia.....           | 6,997         | 2.2                      | 921         | 0.2                      |
| Canned goods.....      | 3,171         | 1.0                      | 861         | 0.2                      |
| Metals.....            | 5,286         | 1.7                      | 8,575       | 3.3                      |
| Cement.....            | 3,511         | 1.1                      | 1,871       | 0.7                      |
| Rosin.....             | 2,431         | 0.6                      | 1,885       | 0.7                      |
| Other and general..... | 107,590       | 33.9                     | 105,846     | 41.0                     |
| Total cargo.....       | 317,970       | 100.0                    | 258,440     | 100.0                    |

## CARGO PASSING FROM PACIFIC TO ATLANTIC.

|                                                 |         |       |         |       |
|-------------------------------------------------|---------|-------|---------|-------|
| Wheat.....                                      | 80,231  | 15.4  | 99,267  | 22.1  |
| Barley.....                                     | 77,661  | 14.9  | 27,780  | 6.2   |
| Sugar.....                                      | 49,406  | 9.5   | 48,394  | 10.8  |
| Nitrate.....                                    | 39,349  | 7.5   | 26,051  | 5.8   |
| Lumber.....                                     | 35,054  | 6.7   | 31,699  | 7.0   |
| Cold storage and food products:                 |         |       |         |       |
| Mutton.....                                     | 20,367  |       | 21,329  |       |
| Other.....                                      | 11,291  | 6.1   | 12,496  | 7.5   |
| Canned goods:                                   |         |       |         |       |
| Fruit.....                                      | 10,291  |       | 10,482  |       |
| Fish.....                                       | 7,972   | 4.2   | 10,596  | 5.3   |
| Miscellaneous.....                              | 2,875   |       | 2,906   |       |
| Metals:                                         |         |       |         |       |
| Copper.....                                     | 17,341  |       | 9,259   |       |
| Other.....                                      | 4,084   | 4.2   | 1,752   | 2.4   |
| Flour.....                                      | 18,946  | 3.6   | 28,940  | 6.4   |
| Wool.....                                       | 10,468  | 2.0   | 14,030  | 3.1   |
| Coffee.....                                     | 6,710   | 1.3   | 6,673   | 1.5   |
| Oats.....                                       | 6,605   | 1.3   | 3,185   | 0.7   |
| Phosphates.....                                 | 6,650   | 1.3   | 7,500   | 1.6   |
| Beans, peas, lentils.....                       | 5,571   | 1.1   | 5,762   | 1.3   |
| Seed:                                           |         |       |         |       |
| Cotton.....                                     | 4,239   |       | 5,380   |       |
| Clover.....                                     | 647     |       | 312     |       |
| Hemp.....                                       | 226     | 1.1   |         | 1.3   |
| Mustard.....                                    | 137     |       |         |       |
| Sesame.....                                     | 100     |       |         |       |
| Rice.....                                       | 5,033   | 1.0   | 7,767   | 1.7   |
| Fruit (dried, 4,917 tons; fresh, 275 tons)..... | 5,192   | 1.0   | 3,274   | 0.7   |
| Cottonseed oil cake.....                        | 4,558   | 0.9   | 717     | 0.2   |
| Cotton, raw.....                                | 4,140   | 0.8   | 3,281   | 0.7   |
| Copra.....                                      | 3,115   | 0.6   | 2,450   | 0.5   |
| Oils:                                           |         |       |         |       |
| Vegetable.....                                  | 1,375   |       | 1       |       |
| Coconut.....                                    | 500     | 0.5   | 7,073   | 1.6   |
| Rapeseed.....                                   | 357     |       |         |       |
| Other.....                                      | 703     |       | 4       |       |
| Skins and hides.....                            | 2,571   | 0.4   | 4,658   | 1.0   |
| Ivory nuts.....                                 | 1,492   | 0.3   | 2,368   | 0.5   |
| Cacao.....                                      | 1,469   | 0.3   | 4,072   | 0.9   |
| Other and general.....                          | 73,947  | 14.0  | 41,082  | 9.2   |
| Total cargo.....                                | 521,303 | 100.0 | 450,542 | 100.0 |

## UNITED STATES COASTWISE TRAFFIC.

The number of vessels engaged in the United States coastwise traffic, passing through the Panama Canal during August, 1921, together with their tonnage, tolls, and tons of cargo carried, as compared with the preceding months of the calendar year was as follows:

|               | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|---------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|               | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.         |                      |                    |             |                |                      |                    |             |                |
| January.....  | 17                   | 88,086             | \$91,390.00 | 76,593         | 16                   | 62,765             | \$64,343.59 | 81,336         |
| February..... | 15                   | 80,940             | 79,169.20   | 67,302         | 17                   | 66,043             | 66,703.70   | 68,345         |
| March.....    | 16                   | 71,770             | 75,338.65   | 55,111         | 11                   | 61,804             | 64,470.64   | 52,289         |
| April.....    | 19                   | 92,033             | 94,185.00   | 94,484         | 14                   | 68,368             | 65,523.74   | 59,306         |
| May.....      | 17                   | 82,257             | 84,545.85   | 90,617         | 16                   | 75,593             | 72,813.55   | 93,242         |
| June.....     | 17                   | 96,199             | 94,577.11   | 68,809         | 11                   | 53,986             | 53,953.75   | 57,234         |
| July.....     | 19                   | 101,924            | 99,474.75   | 60,997         | 15                   | 70,477             | 72,103.75   | 92,659         |
| August.....   | 19                   | 86,278             | 81,734.17   | 55,387         | 23                   | 110,899            | 118,316.25  | 129,792        |

## UNITED STATES SHIPPING BOARD VESSELS.

The number of vessels under control of the United States Shipping Board passing through the Panama Canal during the month of August, 1921, together with their Panama Canal net tonnage, tolls, and tons of cargo carried, as compared with preceding months of the calendar year, was as follows:

|               | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|---------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|               | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.         |                      |                    |             |                |                      |                    |             |                |
| January.....  | 14                   | 59,738             | \$64,769.85 | 70,058         | 23                   | 96,877             | \$93,268.29 | 98,075         |
| February..... | 8                    | 41,024             | 42,951.75   | 35,018         | 20                   | 96,441             | 94,082.01   | 108,285        |
| March.....    | 18                   | 94,823             | 96,782.80   | 83,978         | 8                    | 34,066             | 31,378.00   | 30,025         |
| April.....    | 13                   | 61,176             | 61,590.00   | 60,231         | 12                   | 56,049             | 53,162.18   | 52,908         |
| May.....      | 9                    | 39,614             | 40,180.00   | 48,489         | 21                   | 97,257             | 92,380.47   | 114,107        |
| June.....     | 17                   | 86,361             | 78,770.14   | 65,945         | 11                   | 49,370             | 48,080.00   | 59,696         |
| July.....     | 12                   | 67,851             | 65,796.25   | 29,918         | 12                   | 60,804             | 61,305.00   | 82,767         |
| August.....   | 15                   | 76,570             | 71,607.58   | 46,542         | 18                   | 79,390             | 77,353.39   | 91,897         |

## TRAFFIC BY TRADE ROUTES.

Statements attached to this report show the origin and destination of all cargo passing through the Panama Canal as accurately as the same can be segregated from the cargo declarations submitted by the ships' masters (*see* pages 110 and 111). Below is given a summary of the traffic passing over the principal trade routes, showing the number of vessels, their Panama Canal net measurement, and the amount of cargo carried. The vessels shown as in ballast represent cargo-carrying vessels only; warships, tugs, yachts, etc., not being included as "ballast".

| Trade routes.                                                   | Total vessels. |                           |         | Vessels in ballast. |                           |
|-----------------------------------------------------------------|----------------|---------------------------|---------|---------------------|---------------------------|
|                                                                 | Number.        | Panama Canal net tonnage. | Cargo.  | Number.             | Panama Canal net tonnage. |
| <i>Atlantic to Pacific.</i>                                     |                |                           |         |                     |                           |
| United States coastwise.....                                    | 19             | 86,278                    | 55,387  | 3                   | 14,176                    |
| United States to Far East.....                                  | 18             | 90,256                    | 112,454 |                     |                           |
| Europe to west coast of United States.....                      | 17             | 68,334                    | 684     | 16                  | 64,545                    |
| Cristobal to west coast of South America.....                   | 12             | 17,372                    | 3,443   |                     |                           |
| Europe to west coast of South America.....                      | 11             | 47,902                    | 23,500  |                     |                           |
| United States to west coast of South America.....               | 11             | 31,053                    | 10,949  | 1                   | 3,741                     |
| Europe to Australasia.....                                      | 6              | 42,837                    | 16,266  |                     |                           |
| United States to Australasia.....                               | 5              | 27,714                    | 31,150  |                     |                           |
| United States to Balboa, C. Z.....                              | 4              | 17,564                    | 19,114  |                     |                           |
| Europe to west coast of Canada.....                             | 3              | 16,695                    | 8,828   | 1                   | 6,334                     |
| Mexico to west coast of South America.....                      | 2              | 9,587                     | 17,718  |                     |                           |
| Cristobal, C. Z., to Central America.....                       | 2              | 1,624                     | 1,128   |                     |                           |
| Colombian coastwise.....                                        | 2              | 972                       | 810     |                     |                           |
| Cristobal, C. Z., to west coast of United States.....           | 1              | 2,206                     | 1,560   |                     |                           |
| Miscellaneous trade routes.....                                 | 7              | 26,825                    | 14,979  | 2                   | 7,759                     |
| Totals, Atlantic to Pacific, August, 1921.....                  | 120            | 487,219                   | 317,970 | 23                  | 96,555                    |
| Totals, Atlantic to Pacific, July, 1921.....                    | 105            | 403,051                   | 258,440 | 14                  | 27,510                    |
| Totals, Atlantic to Pacific, August, 1920.....                  | 143            | 492,504                   | 539,954 | 27                  | 61,826                    |
| <i>Pacific to Atlantic.</i>                                     |                |                           |         |                     |                           |
| West coast of United States to Europe.....                      | 23             | 109,893                   | 174,198 |                     |                           |
| United States coastwise.....                                    | 23             | 110,899                   | 129,792 |                     |                           |
| West coast of South America to east coast of United States..... | 13             | 42,871                    | 47,717  |                     |                           |
| Australasia to Europe.....                                      | 11             | 64,147                    | 54,877  |                     |                           |
| West coast of South America to Cristobal, C. Z.....             | 11             | 16,825                    | 8,490   |                     |                           |
| West coast of South America to Europe.....                      | 10             | 45,656                    | 45,625  |                     |                           |
| Far East to east coast of United States.....                    | 4              | 20,628                    | 29,308  |                     |                           |
| Balboa, C. Z., to Mexico.....                                   | 3              | 15,435                    |         | 3                   | 15,435                    |
| West coast of Canada to Europe.....                             | 2              | 12,134                    | 17,702  |                     |                           |
| Australasia to east coast of United States.....                 | 2              | 4,514                     | 1,555   |                     |                           |
| West coast of United States to Cristobal, C. Z.....             | 2              | 3,799                     | 2,473   |                     |                           |
| West coast of Central America to Cristobal, C. Z.....           | 2              | 1,398                     | 1,195   |                     |                           |
| Balboa, C. Z., to east coast of United States.....              | 1              | 8,063                     |         | 1                   | 8,063                     |
| West coast of United States to east coast of Mexico.....        | 1              | 5,035                     |         | 1                   | 5,035                     |
| West coast of Canada to east coast of United States.....        | 2              | 7,304                     | 5,962   |                     |                           |
| West coast of South America to east coast of Mexico.....        | 1              | 4,274                     |         | 1                   | 4,274                     |
| Miscellaneous trade routes.....                                 | 4              | 5,182                     | 2,379   | 1                   | 2,512                     |
| Warships.....                                                   | 1              | (1)                       |         |                     |                           |
| Totals, Pacific to Atlantic, August, 1921.....                  | 116            | 478,057                   | 521,303 | 7                   | 35,319                    |
| Totals, Pacific to Atlantic, July, 1921.....                    | 101            | 407,562                   | 450,542 | 6                   | 30,383                    |
| Totals, Pacific to Atlantic, August, 1920.....                  | 123            | 458,811                   | 500,786 | 17                  | 75,338                    |

<sup>1</sup> Spanish battleship with displacement tonnage of 14,345.



## LATIN-AMERICAN TRAFFIC.

The number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality, were as follows:

## ATLANTIC TO PACIFIC.

| Nationality.       | No. of vessels | TONNAGE.                  |                   |                   |                 | Tolls.      | Cargo.  |
|--------------------|----------------|---------------------------|-------------------|-------------------|-----------------|-------------|---------|
|                    |                | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |         |
| British.....       | 19             | 36,772                    | 47,765            | 62,362            | 37,858          | \$45,943.90 | 24,270  |
| United States..... | 16             | 43,220                    | 52,735            | 68,745            | 43,267          | 54,018.30   | 49,736  |
| Norwegian.....     | 4              | 9,937                     | 11,398            | 13,354            | 9,279           | 11,893.92   | 5,476   |
| Peruvian.....      | 3              | 3,703                     | 7,750             | 12,325            | 6,031           | 4,635.00    | 562     |
| Chilean.....       | 2              | 3,260                     | 5,645             | 6,367             | 3,888           | 4,075.00    | 1,824   |
| Danish.....        | 1              | 4,257                     | 5,317             | 6,645             | 4,244           | 5,321.25    | 3,421   |
| French.....        | 1              | 3,600                     | 4,146             | 5,765             | 3,681           | 4,500.00    | 124     |
| Japanese.....      | 1              | 3,645                     | 4,230             | 5,761             | 3,556           | 4,556.25    | 3,977   |
| Dutch.....         | 1              | 2,224                     | 3,607             | 3,623             | 2,229           | 2,780.00    | 3,809   |
| August, 1921.....  | 48             | 110,623                   | 142,593           | 184,947           | 114,033         | 137,723.62  | 93,199  |
| July, 1921.....    | 42             | 78,594                    | 99,714            | 136,403           | 82,573          | 94,585.33   | 55,525  |
| August, 1920.....  | 75             | .....                     | 193,894           | 259,052           | 161,784         | .....       | 196,087 |

## PACIFIC TO ATLANTIC.

| Nationality.       | No. of vessels | TONNAGE.                  |                   |                   |                 | Tolls.      | Cargo.  |
|--------------------|----------------|---------------------------|-------------------|-------------------|-----------------|-------------|---------|
|                    |                | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |         |
| British.....       | 17             | 42,109                    | 51,702            | 71,429            | 44,729          | \$49,911.38 | 30,147  |
| United States..... | 17             | 47,521                    | 56,772            | 73,793            | 47,044          | 49,489.31   | 36,399  |
| Norwegian.....     | 3              | 7,113                     | 8,602             | 8,433             | 5,052           | 8,598.25    | 12,484  |
| Chilean.....       | 3              | 6,028                     | 9,201             | 12,399            | 6,833           | 7,535.00    | 4,914   |
| Peruvian.....      | 3              | 4,010                     | 8,315             | 12,666            | 6,614           | 5,012.50    | 4,867   |
| Chilean.....       | 1              | 4,368                     | 4,369             | 5,243             | 3,329           | 5,242.80    | 6,482   |
| Japanese.....      | 1              | 3,360                     | 4,446             | 5,446             | 3,311           | 4,200.00    | 6,814   |
| Dutch.....         | 1              | 1,598                     | 3,083             | 2,652             | 1,619           | 1,997.50    | 4,067   |
| August, 1921.....  | 46             | 116,107                   | 146,490           | 192,066           | 118,531         | 131,986.74  | 106,174 |
| July, 1921.....    | 44             | 99,862                    | 129,887           | 166,419           | 102,303         | 112,330.18  | 84,368  |
| August, 1921.....  | 76             | .....                     | 219,997           | 293,983           | 183,661         | .....       | 228,342 |

CLASSIFICATION OF COMMERCIAL TRAFFIC.<sup>1</sup>

A statement of this month's commercial traffic, classified (1) according to the nationality of the various ships passing through the Panama Canal, and (2) segregating laden and unladen vessels, is shown in the following tabulations:

| Nationality.                                                                                          | Atlantic to Pacific. | Pacific to Atlantic. | Total.  |
|-------------------------------------------------------------------------------------------------------|----------------------|----------------------|---------|
| Number and nationality of commercial vessels passing through the Canal:                               |                      |                      |         |
| British.....                                                                                          | 51                   | 32                   | 83      |
| Chilean.....                                                                                          | 2                    | 3                    | 5       |
| Costa Rican.....                                                                                      | 1                    | .....                | 1       |
| Danish.....                                                                                           | 2                    | 3                    | 5       |
| Dutch.....                                                                                            | 2                    | 1                    | 3       |
| French.....                                                                                           | 1                    | 1                    | 2       |
| Japanese.....                                                                                         | 9                    | 14                   | 23      |
| Norwegian.....                                                                                        | 5                    | 5                    | 10      |
| Peruvian.....                                                                                         | 3                    | 3                    | 6       |
| Spanish.....                                                                                          | .....                | 1                    | 1       |
| Swedish.....                                                                                          | 1                    | .....                | 1       |
| United States.....                                                                                    | 43                   | 51                   | 94      |
| Totals, August, 1921.....                                                                             | 120                  | 116                  | 236     |
| Totals, July, 1921.....                                                                               | 105                  | 101                  | 206     |
| Totals, August, 1920.....                                                                             | 143                  | 123                  | 266     |
| United States equivalent net tonnage of commercial vessels passing through the Canal, by nationality: |                      |                      |         |
| British.....                                                                                          | 170,882              | 107,173              | 278,055 |
| Chilean.....                                                                                          | 3,260                | 6,028                | 9,283   |
| Costa Rican.....                                                                                      | 25                   | .....                | 25      |

<sup>1</sup> Commercial traffic includes all ocean-going vessels transiting the Canal, excepting vessels owned or chartered by the United States Government.

| Nationality.                                                                                                    | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.           |
|-----------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|------------------|
| United States equivalent net tonnage of commercial vessels passing through the Canal, by nationality—Continued: |                            |                            |                  |
| Danish.....                                                                                                     | 8,824                      | 12,999                     | 21,823           |
| Dutch.....                                                                                                      | 5,356                      | 11,321                     | 16,677           |
| French.....                                                                                                     | 3,600                      | 4,368                      | 7,968            |
| Japanese.....                                                                                                   | 35,323                     | 57,451                     | 92,774           |
| Norwegian.....                                                                                                  | 11,125                     | 14,451                     | 25,576           |
| Peruvian.....                                                                                                   | 3,708                      | 4,010                      | 7,718            |
| Spanish.....                                                                                                    |                            | ( <sup>1</sup> )           | ( <sup>1</sup> ) |
| Swedish.....                                                                                                    | 4,004                      |                            | 4,004            |
| United States.....                                                                                              | 143,188                    | 180,346                    | 328,534          |
| Totals, August, 1921.....                                                                                       | 304,295                    | 398,147                    | 792,442          |
| Totals, July, 1921.....                                                                                         | 324,330                    | 328,109                    | 652,439          |
| Totals, August, 1920.....                                                                                       | 407,933                    | 374,482                    | 782,415          |
| Panama Canal net tonnage of commercial vessels passing through the Canal, by nationality:                       |                            |                            |                  |
| British.....                                                                                                    | 215,497                    | 127,139                    | 342,636          |
| Chilean.....                                                                                                    | 5,645                      | 9,201                      | 14,846           |
| Costa Rican.....                                                                                                | 18                         |                            | 18               |
| Danish.....                                                                                                     | 9,935                      | 15,419                     | 25,354           |
| Dutch.....                                                                                                      | 7,075                      | 15,217                     | 22,292           |
| French.....                                                                                                     | 4,146                      | 4,369                      | 8,515            |
| Japanese.....                                                                                                   | 39,319                     | 65,216                     | 104,535          |
| Norwegian.....                                                                                                  | 12,726                     | 17,082                     | 29,808           |
| Peruvian.....                                                                                                   | 7,750                      | 8,315                      | 16,065           |
| Spanish.....                                                                                                    |                            | ( <sup>1</sup> )           | ( <sup>1</sup> ) |
| Swedish.....                                                                                                    | 4,249                      |                            | 4,249            |
| United States.....                                                                                              | 180,859                    | 216,099                    | 396,958          |
| Totals, August, 1921.....                                                                                       | 487,219                    | 478,057                    | 965,276          |
| Totals, July, 1921.....                                                                                         | 403,051                    | 407,562                    | 810,613          |
| Totals, August, 1920.....                                                                                       | 492,504                    | 458,841                    | 951,345          |
| Registered gross tonnage of commercial vessels passing through the Canal, by nationality:                       |                            |                            |                  |
| British.....                                                                                                    | 264,438                    | 167,271                    | 431,709          |
| Chilean.....                                                                                                    | 6,367                      | 12,399                     | 18,766           |
| Costa Rican.....                                                                                                | 28                         |                            | 28               |
| Danish.....                                                                                                     | 12,618                     | 19,265                     | 31,883           |
| Dutch.....                                                                                                      | 7,307                      | 17,958                     | 25,265           |
| French.....                                                                                                     | 5,765                      | 5,248                      | 11,013           |
| Japanese.....                                                                                                   | 51,793                     | 84,230                     | 136,023          |
| Norwegian.....                                                                                                  | 15,422                     | 19,001                     | 34,423           |
| Peruvian.....                                                                                                   | 12,325                     | 12,666                     | 24,991           |
| Spanish.....                                                                                                    |                            | ( <sup>1</sup> )           | ( <sup>1</sup> ) |
| Swedish.....                                                                                                    | 4,594                      |                            | 4,594            |
| United States.....                                                                                              | 227,195                    | 273,927                    | 501,122          |
| Totals, August, 1921.....                                                                                       | 607,852                    | 611,965                    | 1,219,817        |
| Totals, July, 1921.....                                                                                         | 508,670                    | 514,132                    | 1,022,802        |
| Totals, August, 1920.....                                                                                       | 622,073                    | 586,398                    | 1,208,471        |
| Registered net tonnage of commercial vessels passing through the Canal, by nationality:                         |                            |                            |                  |
| British.....                                                                                                    | 165,440                    | 105,060                    | 270,500          |
| Chilean.....                                                                                                    | 3,888                      | 6,833                      | 10,721           |
| Costa Rican.....                                                                                                | 18                         |                            | 18               |
| Danish.....                                                                                                     | 8,829                      | 13,048                     | 21,877           |
| Dutch.....                                                                                                      | 4,438                      | 11,214                     | 15,652           |
| French.....                                                                                                     | 3,681                      | 3,329                      | 7,010            |
| Japanese.....                                                                                                   | 34,689                     | 55,993                     | 90,682           |
| Norwegian.....                                                                                                  | 10,451                     | 11,763                     | 22,214           |
| Peruvian.....                                                                                                   | 6,031                      | 6,614                      | 12,645           |
| Spanish.....                                                                                                    |                            | ( <sup>1</sup> )           | ( <sup>1</sup> ) |
| Swedish.....                                                                                                    | 3,452                      |                            | 3,452            |
| United States.....                                                                                              | 146,154                    | 180,020                    | 326,174          |
| Totals, August, 1921.....                                                                                       | 387,071                    | 393,874                    | 780,945          |
| Totals, July, 1921.....                                                                                         | 321,763                    | 328,605                    | 650,368          |
| Totals, August, 1920.....                                                                                       | 396,312                    | 374,008                    | 770,320          |

<sup>1</sup> Spanish cruiser of 14,345 tons displacement.

| Nationality.                                                                           | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.       |
|----------------------------------------------------------------------------------------|----------------------------|----------------------------|--------------|
| Tolls levied against commercial vessels passing through the Canal, by nationality:     |                            |                            |              |
| British.....                                                                           | \$197,703.26               | \$130,835.28               | \$328,538.54 |
| Chilean.....                                                                           | 4,075.00                   | 7,535.00                   | 11,610.00    |
| Costa Rican.....                                                                       | 18.75                      |                            | 18.75        |
| Danish.....                                                                            | 10,862.85                  | 16,248.75                  | 27,111.60    |
| Dutch.....                                                                             | 5,276.96                   | 14,151.25                  | 19,428.21    |
| French.....                                                                            | 4,500.00                   | 5,242.80                   | 9,742.80     |
| Japanese.....                                                                          | 43,341.40                  | 71,091.25                  | 114,432.65   |
| Norwegian.....                                                                         | 12,850.08                  | 17,675.60                  | 30,525.68    |
| Peruvian.....                                                                          | 4,635.00                   | 5,012.50                   | 9,647.50     |
| Spanish.....                                                                           |                            | 7,172.50                   | 7,172.50     |
| Swedish.....                                                                           | 5,005.00                   |                            | 5,005.00     |
| United States.....                                                                     | 176,748.94                 | 215,398.61                 | 392,147.55   |
| Totals, August, 1921.....                                                              | 465,017.24                 | 490,363.54                 | 955,380.78   |
| Totals, July, 1921.....                                                                | 405,220.18                 | 399,282.93                 | 804,503.11   |
| Totals, August, 1920.....                                                              | 493,418.85                 | 442,790.59                 | 936,209.44   |
| Tons of cargo carried by commercial vessels passing through the Canal, by nationality: |                            |                            |              |
| British.....                                                                           | 105,397                    | 96,607                     | 202,004      |
| Chilean.....                                                                           | 1,824                      | 4,914                      | 6,738        |
| Danish.....                                                                            | 3,421                      | 25,071                     | 28,492       |
| Dutch.....                                                                             | 3,809                      | 21,769                     | 25,578       |
| French.....                                                                            | 124                        | 6,482                      | 6,606        |
| Japanese.....                                                                          | 44,898                     | 101,122                    | 146,020      |
| Norwegian.....                                                                         | 5,476                      | 26,263                     | 31,739       |
| Peruvian.....                                                                          | 562                        | 4,867                      | 5,429        |
| Swedish.....                                                                           | 6,300                      |                            | 6,300        |
| United States.....                                                                     | 146,159                    | 234,208                    | 380,367      |
| Totals, August, 1921.....                                                              | 317,970                    | 521,303                    | 839,273      |
| Totals, July, 1921.....                                                                | 258,440                    | 450,542                    | 708,982      |
| Totals, August, 1920.....                                                              | 539,954                    | 500,786                    | 1,040,740    |
| A further classification of the above commercial traffic:                              |                            |                            |              |
| Cargo-carrying vessels—                                                                |                            |                            |              |
| Laden.....                                                                             | 92                         | 107                        | 199          |
| Ballast.....                                                                           | 23                         | 7                          | 30           |
| Passenger ships.....                                                                   | 2                          |                            | 1            |
| Battleship.....                                                                        |                            | 1                          | 1            |
| Yacht.....                                                                             | 1                          |                            | 1            |
| Sea-going launches.....                                                                | 2                          | 1                          | 3            |
| Total commercial vessels.....                                                          | 120                        | 116                        | 236          |
| Tonnage of above vessels:                                                              |                            |                            |              |
| Panama Canal net measurement—                                                          |                            |                            |              |
| Cargo-carrying vessels—                                                                |                            |                            |              |
| Laden.....                                                                             | 374,070                    | 442,732                    | 816,802      |
| Ballast.....                                                                           | 96,555                     | 35,319                     | 131,874      |
| Passenger ships.....                                                                   | 16,386                     |                            | 16,386       |
| Yacht.....                                                                             | 184                        |                            | 184          |
| Sea-going launches.....                                                                | 24                         | 6                          | 30           |
| Displacement tonnage of battleship.....                                                |                            | 14,345                     | 14,345       |
| Tolls paid on above vessels:                                                           |                            |                            |              |
| Cargo-carrying vessels—                                                                |                            |                            |              |
| Laden.....                                                                             | \$375,215.00               | \$457,663.50               | \$832,878.50 |
| Ballast.....                                                                           | 73,006.74                  | 25,523.04                  | 98,529.78    |
| Passenger ships.....                                                                   | 16,612.50                  |                            | 16,612.50    |
| Yacht.....                                                                             | 159.75                     |                            | 159.75       |
| Battleship.....                                                                        |                            | 7,172.50                   | 7,172.50     |
| Sea-going launches.....                                                                | 23.25                      | 4.50                       | 27.75        |
| Total tolls, commercial vessels.....                                                   | 465,017.24                 | 490,363.54                 | 955,380.78   |
| Motor ships through the Canal.....                                                     | 4                          | 8                          | 12           |
| Panama Canal net tonnage of above.....                                                 | 4,601                      | 24,093                     | 28,694       |
| Vessels in ballast, charged laden rate, on account of excess fuel.....                 | 2                          |                            | 2            |
| Net tonnage of above, Panama Canal measurement.....                                    | 8,059                      |                            | 8,059        |
| Cargo carried by commercial vessels.....                                               | 317,970                    | 521,303                    | 839,273      |
| Average rate of tolls per cargo ton <sup>1</sup> .....                                 | \$1.18                     | \$0.88                     | \$0.99       |
| Average rate of tolls per cargo ton <sup>2</sup> .....                                 | 1.41                       | .93                        | 1.11         |

<sup>1</sup> Laden vessels only.<sup>2</sup> Including cargo-carrying vessels in ballast.

CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.<sup>1</sup>

The following statement shows the tonnage of, and amount of cargo carried by United States Government vessels passing through the Panama Canal during the month of August, 1921. This traffic passes through the Panama Canal free of tolls; if tolls had been assessed against these vessels, however, at commercial rates, the amounts collected would have been as indicated below.

In this statement is also included the number and tonnage of launches transiting the Canal, together with tolls collected thereon. Although paying tolls they are included in the noncommercial traffic, being small nonseagoing vessels of under 10 tons measurement.

|                                                                            | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|----------------------------------------------------------------------------|----------------------------|----------------------------|-------------|
| United States Navy vessels:                                                |                            |                            |             |
| Battleships.....                                                           | 1                          | 2                          | 3           |
| Cruisers.....                                                              | 2                          | 2                          | 4           |
| Tugs.....                                                                  | 3                          | 2                          | 5           |
| Gunboats.....                                                              | 1                          | 1                          | 2           |
| Minesweepers.....                                                          | 1                          | 1                          | 2           |
| Subchasers.....                                                            | 2                          | 1                          | 3           |
| Colliers.....                                                              | 3                          | 1                          | 4           |
| Ammunition ship.....                                                       | 1                          |                            | 1           |
| Store ship.....                                                            | 1                          |                            | 1           |
| Total naval vessels.....                                                   | 15                         | 10                         | 25          |
| United States Army vessels:                                                |                            |                            |             |
| Mineplanters.....                                                          | 1                          | 2                          | 3           |
| Launches.....                                                              | 2                          |                            | 2           |
| Total Army vessels.....                                                    | 3                          | 2                          | 5           |
| Vessels chartered to carry Government supplies.....                        | 1                          |                            | 1           |
| Total vessels through Canal free of tolls.....                             | 19                         | 12                         | 31          |
| Tonnage of above vessels:                                                  |                            |                            |             |
| Panama Canal net tonnage—                                                  |                            |                            |             |
| Naval vessels.....                                                         | 28,307                     | 4,124                      | 32,431      |
| Army vessels.....                                                          | 423                        | 449                        | 872         |
| Vessels with Government supplies.....                                      | 4,917                      |                            | 4,917       |
| Total Panama Canal net tonnage.....                                        | 33,647                     | 4,573                      | 38,220      |
| Displacement tonnage, naval vessels.....                                   | 43,390                     | 62,913                     | 106,303     |
| Cargo carried by above vessels:                                            |                            |                            |             |
| Naval vessels..... tons.....                                               | 28,396                     |                            | 28,396      |
| Vessels with Government supplies..... tons.....                            | 7,467                      |                            | 7,467       |
| Total cargo through Canal free of tolls.....                               | 35,863                     |                            | 35,863      |
| Tolls which above vessels would have paid if assessed at commercial rates: |                            |                            |             |
| Naval vessels.....                                                         | \$54,597.60                | \$34,425.78                | \$89,023.38 |
| Army vessels.....                                                          | 304.56                     | 323.28                     | 627.84      |
| Vessels with Government supplies.....                                      | 5,713.75                   |                            | 5,713.75    |
| Total.....                                                                 | 60,615.91                  | 34,749.06                  | 95,364.97   |
| Launches through the Canal.....                                            | 2                          | 5                          | 7           |
| Net tonnage of above, Panama Canal measurement.....                        | 14                         | 11                         | 25          |
| Tolls collected on above.....                                              | \$15.95                    | \$8.25                     | \$24.20     |

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of August, 1921, are shown in the following tabulations:

|                                       | Cristobal. | Balboa. | Total. |
|---------------------------------------|------------|---------|--------|
| Vessels passing through the Canal:    |            |         |        |
| Commercial.....                       | 120        | 116     | 236    |
| United States Government vessels..... | 19         | 12      | 31     |
| Launches and miscellaneous craft..... | 2          | 5       | 7      |
| Total vessels and craft.....          | 141        | 133     | 274    |

<sup>1</sup> Vessels, barges, tugs, launches, etc., in the service of The Panama Canal are not included in this statement of traffic.



|                                                                          | Cristobal. | Balboa.   | Total.    |
|--------------------------------------------------------------------------|------------|-----------|-----------|
| Tonnage of above vessels:                                                |            |           |           |
| Panama Canal net measurement—                                            |            |           |           |
| Commercial vessels.....                                                  | 487,219    | 478,057   | 965,276   |
| United States Government vessels.....                                    | 33,647     | 4,573     | 38,220    |
| Launches, etc.....                                                       | 14         | 11        | 25        |
| Displacement tonnage—                                                    |            |           |           |
| Commercial vessels.....                                                  |            | 14,345    | 14,345    |
| United States Government vessels.....                                    | 43,390     | 62,913    | 106,303   |
| Cargo carried by above vessels:                                          |            |           |           |
| Commercial..... tons..                                                   | 317,970    | 521,303   | 839,273   |
| United States Government vessels..... tons..                             | 35,863     |           | 35,863    |
| Total cargo through the Canal..... tons..                                | 353,833    | 521,303   | 875,136   |
| Deck cargo included in the above..... tons..                             | 462        | 2,666     | 3,128     |
| Vessels entering port but not transiting Canal:                          |            |           |           |
| Number entered.....                                                      | 58         | 7         | 65        |
| Number cleared.....                                                      | 58         | 7         | 65        |
| Registered gross tonnage of above:                                       |            |           |           |
| Entering.....                                                            | 272,723    | 110,211   | 382,934   |
| Clearing.....                                                            | 277,007    | 110,211   | 387,218   |
| Registered net tonnage of above:                                         |            |           |           |
| Entering.....                                                            | 164,221    | 102,378   | 266,599   |
| Clearing.....                                                            | 166,526    | 102,378   | 268,904   |
| Vessels transiting the Canal and handling passengers or cargo at port:   |            |           |           |
| Number entering.....                                                     | 48         | 45        | 93        |
| Number clearing.....                                                     | 51         | 45        | 96        |
| Registered gross tonnage of above:                                       |            |           |           |
| Entering.....                                                            | 198,198    | 215,620   | 413,818   |
| Clearing.....                                                            | 204,953    | 215,620   | 420,573   |
| Registered net tonnage of above:                                         |            |           |           |
| Entering.....                                                            | 126,875    | 136,941   | 263,816   |
| Clearing.....                                                            | 130,275    | 136,941   | 267,216   |
| All vessels entering and clearing, including those transiting the Canal: |            |           |           |
| Number entering.....                                                     | 298        | 253       | 551       |
| Number clearing.....                                                     | 307        | 252       | 559       |
| Registered gross tonnage of above:                                       |            |           |           |
| Entering.....                                                            | 1,659,032  | 1,487,239 | 3,146,271 |
| Clearing.....                                                            | 1,716,603  | 1,449,615 | 3,166,218 |
| Registered net tonnage of above:                                         |            |           |           |
| Entering.....                                                            | 1,106,763  | 1,028,629 | 2,135,392 |
| Clearing.....                                                            | 1,149,112  | 993,439   | 2,142,551 |
| Transit cargo arriving..... tons..                                       | 857,845    | 850,223   | 1,708,068 |
| Transit cargo clearing..... tons..                                       | 893,656    | 850,223   | 1,743,879 |
| Local cargo arriving..... tons..                                         | 52,861     | 37,294    | 90,155    |
| Local cargo shipped..... tons..                                          | 12,228     | 181       | 12,409    |
| Cargo received for transshipment..... tons..                             | 23,168     | 6         | 23,174    |
| Cargo transhipped..... tons..                                            | 16,405     | 75        | 16,480    |
| Cargo handled by Receiving and Forwarding Agency, Panama Railroad:       |            |           |           |
| Received..... tons..                                                     | 41,256     | 1,905     | 43,161    |
| Dispatched..... tons..                                                   | 29,184     | 314       | 29,498    |
| Rehandled..... tons..                                                    | 2,303      | 85        | 2,388     |
| Stevedored..... tons..                                                   | 25,787     | 89        | 25,876    |
| Vessels supplied with bunker coal:                                       |            |           |           |
| Commercial, other than Panama Railroad.....                              | 60         | 4         | 64        |
| Panama Railroad vessels.....                                             | 5          |           | 5         |
| United States Army vessels.....                                          | 2          | 1         | 3         |
| Total vessels supplied with bunker coal.....                             | 67         | 5         | 72        |
| Coal supplied to above vessels:                                          |            |           |           |
| Commercial, other than Panama Railroad..... tons..                       | 17,454     | 508       | 17,962    |
| Panama Railroad vessels..... tons..                                      | 723        |           | 723       |
| United States Army vessels..... tons..                                   | 106        | 2         | 108       |
| Total coal supplied to vessels..... tons..                               | 18,283     | 510       | 18,793    |

|                                                                       | Cristobal.  | Balboa.     | Total.       |
|-----------------------------------------------------------------------|-------------|-------------|--------------|
| <b>Coal issues, miscellaneous:</b>                                    |             |             |              |
| Panama Canal departments..... tons                                    | 670         | 793         | 1,463        |
| Panama Railroad, excepting vessels..... tons                          | 461         | 30          | 491          |
| United States Army, excepting vessels..... tons                       | 224         | 31          | 255          |
| Individuals and companies..... tons                                   | 326         |             | 326          |
| Total coal furnished from Panama Canal deposits, Aug., 1921..... tons | 19,964      | 1,364       | 21,328       |
| Total coal furnished from Panama Canal deposits, July, 1921..... tons | 25,465      | 2,145       | 27,610       |
| Total coal furnished from Panama Canal deposits, Aug., 1920..... tons | 32,197      | 7,118       | 39,315       |
| Coal on hand, September 1, 1921..... tons                             | 125,114     | 25,066      | 150,180      |
| Coal on hand, August 1, 1921..... tons                                | 111,354     | 14,688      | 126,042      |
| Coal received during August, 1921..... tons                           | 21,602      | 9,181       | 30,783       |
| Taken up on survey..... tons                                          | 12,122      | 2,561       | 14,683       |
| <i>United States Navy coal account.</i>                               |             |             |              |
| Issued to U. S. Navy, including vessels..... tons                     | 622         | 5,623       | 6,245        |
| Coal on hand, September 1, 1921..... tons                             | 60,723      | 9,276       | 69,999       |
| Coal on hand, August 1, 1921..... tons                                | 61,345      | 14,899      | 76,244       |
| <b>Fuel oil issues:</b>                                               |             |             |              |
| To Panama Canal departments..... bbls                                 | 5,013       | 20,186      | 25,199       |
| To Panama Railroad..... bbls                                          | 813         |             | 813          |
| To Army and Navy (including 1 vessel)..... bbls                       | 593         | 238         | 831          |
| Total issues..... bbls                                                | 6,419       | 20,424      | 26,843       |
| Fuel oil on hand, September 1, 1921..... bbls                         | 79,838      | 85,461      | 165,299      |
| Fuel oil on hand, August 1, 1921..... bbls                            | 86,257      | 101,448     | 187,705      |
| Received from United States Shipping Board..... bbls                  |             | 4,437       | 4,437        |
| Diesel oil issued during the month..... bbls                          | 487         | 10          | 497          |
| Diesel oil on hand, September 1, 1921..... bbls                       | 51,127      | 966         | 52,093       |
| Diesel oil on hand, August 1, 1921..... bbls                          | 51,614      | 976         | 52,590       |
| Oil pumped for individuals and companies..... bbls                    | 463,786     | 193,267     | 657,053      |
| Miscellaneous transfers..... bbls                                     | 6,415       |             | 6,415        |
| Total oil handled..... bbls                                           | 477,107     | 213,701     | 690,808      |
| <b>Vessels furnished with commissary supplies:</b>                    |             |             |              |
| Commercial, other than Panama Railroad.....                           | 134         | 42          | 176          |
| Panama Railroad.....                                                  | 8           |             | 8            |
| United States Government.....                                         | 13          | 18          | 31           |
| Total vessels furnished supplies.....                                 | 155         | 60          | 215          |
| <b>Commissary sales to commercial vessels:</b>                        |             |             |              |
| Ice.....                                                              | \$2,589.63  | \$315.70    | \$2,905.33   |
| Wholesale groceries.....                                              | 3,004.09    | 715.55      | 3,719.64     |
| Wholesale cold storage.....                                           | 15,286.40   | 3,590.78    | 18,877.18    |
| Laundry.....                                                          | 3,367.63    | 980.04      | 4,347.67     |
| Miscellaneous.....                                                    | 558.04      | 91.17       | 649.21       |
| Total.....                                                            | 24,805.79   | 5,693.24    | 30,499.03    |
| <b>Commissary sales to Panama Railroad vessels:</b>                   |             |             |              |
| Ice.....                                                              | \$358.80    |             | \$358.80     |
| Wholesale groceries.....                                              | 1,257.63    |             | 1,257.63     |
| Wholesale cold storage.....                                           | 5,076.32    |             | 5,076.32     |
| Laundry.....                                                          | 1,763.49    |             | 1,763.49     |
| Miscellaneous.....                                                    | 448.84      |             | 448.84       |
| Total.....                                                            | 8,905.08    |             | 8,905.08     |
| <b>Commissary sales to United States Government vessels:</b>          |             |             |              |
| Ice.....                                                              | \$357.72    | \$814.18    | \$1,171.90   |
| Wholesale groceries.....                                              | 597.93      | 7,174.27    | 7,772.20     |
| Wholesale cold storage.....                                           | 3,526.34    | 50,120.76   | 53,647.10    |
| Laundry.....                                                          | 21.86       | 33.94       | 55.80        |
| Miscellaneous.....                                                    | 264.29      | 907.74      | 1,172.03     |
| Total.....                                                            | 4,768.14    | 59,050.89   | 63,819.03    |
| <b>Total commissary sales to all vessels:</b>                         |             |             |              |
| August, 1921.....                                                     | \$38,479.01 | \$64,744.13 | \$103,223.14 |
| July, 1921.....                                                       | 38,494.65   | 33,112.18   | 71,606.83    |
| August, 1920.....                                                     | 90,579.18   | 45,243.97   | 135,823.15   |
| <b>Admeasurement certificates:</b>                                    |             |             |              |
| United States equivalent issued or made.....                          | 34          | 3           | 37           |
| Measured for Panama Canal.....                                        | 19          |             | 26           |
| United States equivalent or Panama Canal corrected.....               | 31          | 8           | 39           |

|                                                          | Cristobal.  | Balboa.     | Total.      |
|----------------------------------------------------------|-------------|-------------|-------------|
| Services of harbor equipment:                            |             |             |             |
| Tugs, total operating hours.....                         | 461         | 295         | 756         |
| Launches, total operating hours.....                     | 1,279       | 1,251       | 2,530       |
| Vessels repaired at Panama Canal shops:                  |             |             |             |
| Commercial.....                                          | 45          | 9           | 54          |
| United States Government.....                            | 4           | 4           | 8           |
| Canal equipment.....                                     | 3           | 1           | 4           |
| Vessels dry-docked:                                      |             |             |             |
| Commercial.....                                          | 5           | 2           | 7           |
| United States Government.....                            | 2           | 3           | 5           |
| Canal equipment.....                                     | 2           | 8           | 10          |
| Services to American vessels:                            |             |             |             |
| Crews shipped.....                                       | 2           |             | 2           |
| Crews paid off.....                                      | 2           |             | 2           |
| Shipping articles written.....                           | 2           |             | 2           |
| Marine notes of protest noted.....                       | 33          | 4           | 37          |
| Services to American seamen:                             |             |             |             |
| Seamen shipped.....                                      | 327         | 69          | 396         |
| Seamen discharged.....                                   | 297         | 112         | 409         |
| Seamen lodged and subsisted.....                         | 15          | 21          | 36          |
| Seamen repatriated.....                                  | 11          | 22          | 33          |
| Seamen deserted.....                                     | 16          |             | 16          |
| Wages of American seamen:                                |             |             |             |
| Total wages earned.....                                  | \$12,969.06 | \$15,101.65 | \$28,070.71 |
| Deductions approved by Deputy Shipping Commissioner..... | 4,412.88    | 4,029.45    | 8,442.33    |
| Balance due seamen.....                                  | 8,556.18    | 11,072.20   | 19,628.38   |
| Paid to seamen.....                                      | 6,923.08    | 10,800.47   | 17,723.55   |
| Received on deposit for seamen.....                      | 1,633.10    | 271.73      | 1,904.83    |
| Clearances issued.....                                   | 176         | 128         | 304         |
| Bills of health issued.....                              | 177         | 132         | 309         |
| <i>Movement of passengers.</i>                           |             |             |             |
| Disembarking at Canal ports:                             |             |             |             |
| First class—                                             |             |             |             |
| From Atlantic ports.....                                 | 1,030       | 27          | 1,057       |
| From Pacific ports.....                                  | 210         | 186         | 396         |
| Total, first class.....                                  | 1,240       | 213         | 1,453       |
| Other than first class—                                  |             |             |             |
| From Atlantic ports.....                                 | 574         | 16          | 590         |
| From Pacific ports.....                                  | 92          | 182         | 274         |
| Total, other than first class.....                       | 666         | 198         | 864         |
| Total disembarking at Canal ports.....                   | 1,906       | 411         | 2,317       |
| Embarking from Canal ports:                              |             |             |             |
| First class—                                             |             |             |             |
| For Atlantic ports.....                                  | 1,664       | 7           | 1,671       |
| For Pacific ports.....                                   | 212         | 105         | 317         |
| Total, first class.....                                  | 1,876       | 112         | 1,988       |
| Other than first class—                                  |             |             |             |
| For Atlantic ports.....                                  | 1,120       |             | 1,120       |
| For Pacific ports.....                                   | 117         | 105         | 222         |
| Total, other than first class.....                       | 1,237       | 105         | 1,342       |
| Total embarking from Canal ports.....                    | 3,113       | 217         | 3,330       |
| Remaining on board vessels:                              |             |             |             |
| First class—                                             |             |             |             |
| Bound from Atlantic to Pacific ports.....                | 1,320       | 536         | 1,856       |
| Bound from Pacific to Atlantic ports.....                | 490         | 836         | 1,326       |
| Bound from Atlantic to Atlantic ports.....               | 312         |             | 312         |
| Bound from Pacific to Pacific ports.....                 |             | 27          | 27          |
| Total, first class.....                                  | 2,122       | 1,399       | 3,521       |

|                                            | Cristobal. | Balboa. | Total. |
|--------------------------------------------|------------|---------|--------|
| Remaining on board vessels—Continued:      |            |         |        |
| Other than first class—                    |            |         |        |
| Bound from Atlantic to Pacific ports.....  | 614        | 1,560   | 2,174  |
| Bound from Pacific to Atlantic ports.....  | 349        | 380     | 729    |
| Bound from Atlantic to Atlantic ports..... | 302        |         | 302    |
| Bound from Pacific to Pacific ports.....   |            | 262     | 262    |
| Total, other than first class.....         | 1,265      | 2,202   | 3,467  |
| Total, remaining on board.....             | 3,387      | 3,601   | 6,988  |
| Total passengers arriving.....             | 5,293      | 4,012   | 9,305  |
| Total passengers departing.....            | 6,500      | 3,818   | 10,318 |
| Arrivals in excess of departures.....      |            | 194     |        |
| Departures in excess of arrivals.....      | 1,207      |         |        |
| Departures in excess of arrivals.....      |            |         | 1,013  |

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks, and the consumption of water for lockages, for the month of August, 1921, as compared with that of the preceding month, and of the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                                   | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|-----------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                   | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                        | 111         | 113    | 224    | 7              | 14     | 21     | 245          |
| Pedro Miguel.....                 | 114         | 116    | 230    | 17             | 29     | 46     | 276          |
| Miraflores.....                   | 115         | 116    | 231    | 18             | 25     | 43     | 274          |
| Total lockages, August, 1921..... | 340         | 345    | 685    | 42             | 68     | 110    | 795          |
| Total lockages, July, 1921.....   | 297         | 302    | 599    | 48             | 40     | 88     | 687          |
| Total lockages, August, 1920..... | 341         | 399    | 740    |                |        | 114    | 854          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                  | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|----------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                  | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                       | 121         | 123    | 244    | 18             | 32     | 50     | 294          |
| Pedro Miguel.....                | 119         | 120    | 239    | 35             | 63     | 98     | 337          |
| Miraflores.....                  | 119         | 120    | 239    | 37             | 66     | 103    | 342          |
| Total vessels, August, 1921..... | 359         | 363    | 722    | 90             | 161    | 251    | 973          |
| Total vessels, July, 1921.....   | 306         | 326    | 632    | 123            | 87     | 210    | 842          |
| Total vessels, August, 1920..... | 358         | 440    | 798    |                |        | 250    | 1,048        |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                                  | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------------|--------|---------------|-------------|
| Army and Navy vessels.....       | 36     | 37            | 44          |
| Canal equipment.....             | 14     | 61            | 59          |
| Total noncommercial vessels..... | 50     | 98            | 103         |

The consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                      | Gatun.             | Pedro Miguel.      | Miraflores.        |
|--------------------------------------|--------------------|--------------------|--------------------|
|                                      | <i>Cubic feet.</i> | <i>Cubic feet.</i> | <i>Cubic feet.</i> |
| Lockages.....                        | 935,490,000        | 860,170,000        | 821,380,000        |
| Leakage.....                         | 20,000,000         | 15,260,000         | 67,000,000         |
| Maintenance.....                     |                    |                    | 3,320,000          |
| Total consumption, August, 1921..... | 955,490,000        | 875,430,000        | 891,700,000        |
| Total consumption, July, 1921.....   | 805,760,000        | 804,450,000        | 799,030,000        |
| Total consumption, August, 1920..... | 1,129,670,000      | 1,046,560,000      | 999,430,000        |



## METEOROLOGY AND HYDROGRAPHY.

The rainfall over the Canal Zone and immediate vicinity, for the month of August, 1921, was above normal everywhere except at Bohio. Totals ranged from 8.06 inches at Pedro Miguel River to 30.32 inches at Porto Bello. The greatest amount of rainfall recorded on any one day was 8.37 inches at Porto Bello on the 10th. The estimated rainfall over Gatun Lake watershed area was 16.46 inches, as compared with an 11-year mean of 12.20 inches; while over the Chagres River watershed area above Alhajuela it was 20.68 inches, as compared with a 20-year mean of 14.83 inches.

The discharge of the Chagres River, at Alhajuela, was 3,416 c. f. s., being 12 per cent above the 20-year August mean of 3,038 c. f. s. This is the first month in the past 10, and the fifth month in the past 34 months, in which the discharge of the Chagres River was above normal. The maximum momentary discharge was 20,600 c. f. s. at elevation 100.50 feet on August 10. There were 3 rises of 5 feet or more at Alhajuela during the month.

The Gatun Lake watershed total yield for the month was 10,448 c. f. s., being 33 per cent above the 11-year August mean of 7,858 c. f. s. The maximum total yield for the month of August, of record, was 11,656 c. f. s., in 1917, while the minimum total yield was 4,956 c. f. s. in 1911. The net yield for the month was 10,043 c. f. s. The lake varied in elevation from 86.69 feet on the 11th to 85.46 feet on the 26th. A decrease in storage of 3.60 billion cubic feet was effected by lowering the lake approximately 1 foot.

The draft on the lake for lockages and power was 2,234 c. f. s., as compared with 2,123 c. f. s. for last month, and 2,444 c. f. s. for August, 1920. The ratio of water expended for power and lockages was 2.33 to 1.

The Gamboa pumping plant and the Brazos Brook reservoir drew 34.6 and 38.5 million cubic feet, respectively, from the lake.

Miraflores Lake varied in elevation from 54.09 feet to 53.20 feet, and ended at elevation 53.53 feet midnight the 31st. Eighteen spillway operations were made at Miraflores spillway during the month.

There were 3 very slight seismic tremors recorded on the 11th, and another slight tremor occurred on the 12th. All 4 disturbances were of such light intensity that no estimate could be made as to their distance or direction.

Temperature records for the month of August are given below:

| Station.            | Maximum. | Minimum. | Monthly mean. |
|---------------------|----------|----------|---------------|
| Balboa Heights..... | 92       | 72       | 80.6          |
| Gamboa.....         | 90       | 71       | 79.6          |
| Alhajuela.....      | 91       | 69       | 78.8          |
| Gatun.....          | 88       | 70       | 80.0          |
| Colon.....          | 89       | 72       | 80.6          |

The following gives a comparison of the monthly rainfall by sections for August, 1921, and August, 1920:

| Section.      | Rainfall.      |                | Rainy days. |       |
|---------------|----------------|----------------|-------------|-------|
|               | 1921.          | 1920.          | 1921.       | 1920. |
|               | <i>Inches.</i> | <i>Inches.</i> |             |       |
| Pacific.....  | 9.65           | 9.54           | 20          | 23    |
| Central.....  | 15.31          | 11.38          | 27          | 26    |
| Atlantic..... | 20.91          | 22.30          | 28          | 29    |

## ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., is shown in comparative form, in the following tabulation:

|                                                                           | August, 1921. | July, 1921.   | August, 1920. |
|---------------------------------------------------------------------------|---------------|---------------|---------------|
| Gross output, KWH:                                                        |               |               |               |
| Gatun hydroelectric station.....                                          | 5,522,900     | 5,541,100     | 6,111,200     |
| Miraflores steam plant.....                                               | 2,100         | 500           | 16,020        |
| Combined gross output.....                                                | 5,525,000     | 5,541,600     | 6,127,220     |
| Water consumption..... cubic feet.....                                    | 4,186,412.827 | 4,110,077.816 | 4,469,210.090 |
| Oil consumption..... barrels.....                                         | 1,990         | 2,006         | 2,006         |
| Power distributed to consumers..... KWH.....                              | 4,663,235     | 4,601,656     | 5,059,485     |
| Loss of power in plant auxiliaries, transmission, and transformation..... | 861,765       | 939,944       | 1,067,735     |
| Per cent of loss of power to gross output.....                            | 15.6          | 17.0          | 17.4          |

Miscellaneous electrical repairs and installations of electrical equipment were made on 17 vessels at Cristobal and 28 vessels at Balboa during the month. There were 438 work orders issued for work to be performed by the Electrical Division during the month of August, as compared with 429 for July.

The following new construction work was under progress during the month, with completion on July 31 and August 31 as follows:

|                                                                                                | Per cent completed. |            |
|------------------------------------------------------------------------------------------------|---------------------|------------|
|                                                                                                | July 31.            | August 31. |
| Installation of new 8,400 KVA transformer and new tie-line equipment at Gatun substation . . . | 75                  | 80         |
| Installation of 2 complete feeder equipments at Balboa substation . . . . .                    | 95                  | 95         |
| Installation of electrical equipment at hydroelectric station . . . . .                        | 50                  | 55         |

#### SHOP, FOUNDRY, AND DRY DOCK WORK.

At the Balboa shops, miscellaneous repairs were made on 14 vessels, the more important of which were as follows:

Work on the steamship *Panama*, which was begun in the preceding month, progressed satisfactorily. The vessel was placed in dry dock and all necessary underwater work done, including the renewal of several shell plates below the water line; renewing the lignum-vitæ strips in the stern tubes; the replacing of a number of loose and bad rivets at various points below the water line, and building up the riveting under the keel with electric welding. At the end of the month, work on the boiler room double bottom and within the boiler room enclosure had proceeded to such a point that the vessel was ready to receive the new boilers, the old boilers having been removed immediately after word was received to go ahead with repairs.

Work was started in repairing the bow plating of the steamship *Solana*, damaged in collision at Tampico and temporarily repaired pending a favorable opportunity for making permanent repairs.

The routine docking of the Dredging Division fleet was started at the end of the month.

At the Cristobal shops, miscellaneous repairs were made on 52 vessels during the month, the more important of which were as follows:

The steamship *Balboa* was docked, bottom cleaned and painted, and lost motion taken up in valve gear, steering engine. Liners on sides of low pressure slide valve main engine were manufactured and installed, and lateral play taken up.

On the steamship *West Isleta*, piston rod, complete for main air pump, was manufactured and fitted; holes were drilled at ends of cracks in bottom of pump cylinders, and copper patches fitted and installed over same; 9 sets of pump valves and 2 piston rings for H. P. cylinder were manufactured.

The U. S. S. *Eagle No. 31* was docked and the bottom cleaned and painted, and the sea valves and zincs overhauled. Four mud drum casings were repaired, holes for pins in planetary gears built up, small end of pin was turned down, and reduction gear assembled.

*Clapet No. 7* was docked and the bottom cleaned and painted. The sea valves were ground in, bottom intake renewed, 2 ash pit doors manufactured, valves and pipes in boilers repaired, and the hull patched.

The steamship *Caribbean* was docked, cleaned and painted; and stay bolts, nuts, washers, piston rods, bushings, etc., were manufactured and installed as needed.

There were 22 vessels dry-docked during the month, 9 at Cristobal and 13 at Balboa.

The effect of the financial depression in shipping in curtailing repairs to vessels has been very manifest at the Balboa plant. Almost all of the work performed during the month on vessels has been on those owned by The Panama Canal, the Panama Railroad Steamship Company, and the Army and Navy. There was one stretch of 10 days in which there was no vessel under repair except the steamship *Panama* and an Army tug. Had it not been for the steamship *Panama*, it would not have been possible to retain the organization for proper steamship repair facilities at the Pacific end of the Canal.

The output of the Mechanical Division in patterns, castings, and foundry production for August, 1921, as compared with the preceding month, was as follows:

|                 | August, 1921. |           |         | July, 1921. |           |         |
|-----------------|---------------|-----------|---------|-------------|-----------|---------|
|                 | Patterns.     | Castings. | Pounds. | Patterns.   | Castings. | Pounds. |
| Iron . . . . .  | 5             | 1,035     | 29,240  | 10          | 872       | 57,596  |
| Steel . . . . . | 2             | 19        | 16,170  | 7           | 51        | 38,813  |
| Brass . . . . . | 15            | 483       | 11,737  | 10          | 442       | 8,279   |

There has been but very little demand for new castings. This has produced a situation which has required the reduction of the force in the foundry at the Balboa shops to one-third of its former strength, nearly all of the reduction coming during the month of August.

The routine inspection, hostling, and repair of equipment for the Panama Railroad Company was carried on during the month. Four hundred and thirty job orders were completed during the month, with 252 remaining uncompleted on August 31.

Work on the 5 towing locomotives being built by The Panama Canal is progressing satisfactorily; 2 of the locomotives having been completed except for the installation of hand brakes.

## DREDGING DIVISION.

There was no movement of consequence at Cucaracha slide during the month. A slow, general movement has continued just north of Purple Rock, being recorded as far back as 1,200 feet east from the prism line, and a slight independent movement occurred to the south of this rock. Little, if any, of this material has reached the Canal prism. A dipper dredge, working from the 1st to the 21st of the month in front of this slide, removed during that time 98,850 cubic yards of material, making a total of 2,835,900 cubic yards removed from this slide area since February 22, 1920.

Culebra and Barge Repair slides have showed no important movements during the month. During the month dredges removed 86,550 cubic yards of material from East Barge Repair slide, and 6,700 cubic yards of material from West Barge Repair slide.

No inconvenience to Canal traffic was occasioned by any of the slides.

The total excavation in August, including earth and rock, was 560,100 cubic yards, as follows:

| Cubic yards. | Classified as— |         | Character of work. | Stations.                                                                 | Equipment.       |
|--------------|----------------|---------|--------------------|---------------------------------------------------------------------------|------------------|
|              | Earth.         | Rock.   |                    |                                                                           |                  |
| 98,850       |                | 98,850  | Maintenance.....   | <i>Gaillard Cut, Cucaracha.</i><br>1805-00 to 1814-00 E.....              | <i>Gamboa.</i>   |
| 35,400       | 10,400         | 25,000  | Maintenance.....   | <i>Gaillard Cut—East Barge Repair Slide.</i><br>1746-00 to 1756-50 E..... | <i>Gamboa.</i>   |
| 51,150       | 15,350         | 35,800  | Maintenance.....   | 1756-00 to 1756-00 E.....                                                 | <i>Cascadas.</i> |
| 6,700        | 4,000          | 2,700   | Maintenance.....   | <i>Gaillard Cut—West Barge Repair Slide.</i><br>1739-00 to 1741-00 W..... | <i>Gamboa.</i>   |
| 33,000       | 11,000         | 22,000  | Maintenance.....   | <i>Pacific entrance.</i><br>2296-00 to 2303-00 W.....                     | <i>Cascadas.</i> |
| 54,000       | 54,000         |         | Maintenance.....   | 2108-60 to 2124-00 E.....                                                 | <i>No. 84.</i>   |
| 87,000       | 87,000         |         | Maintenance.....   | 2174-00 to 2190-00 E.....                                                 | <i>No. 84.</i>   |
| 53,000       | 53,000         |         | Maintenance.....   | 2171-00 to 2181-00 W.....                                                 | <i>No. 86.</i>   |
| 68,000       | 68,000         |         | Maintenance.....   | 2158-70 to 2174-00 E.....                                                 | <i>No. 86.</i>   |
| 73,000       | 73,000         |         | Maintenance.....   | 2128-30 to 2155-30 E.....                                                 | <i>No. 86.</i>   |
| 560,100      | 375,750        | 184,350 |                    |                                                                           |                  |

The material excavated at the various stations, was disposed of as follows:

|                               | <i>Cubic yards.</i> |
|-------------------------------|---------------------|
| Dumped north of Gamboa.....   | 191,500             |
| Arsenal fill.....             | 104,000             |
| San Juan fill.....            | 17,000              |
| Flats east of Canal.....      | 161,000             |
| Flats west of Canal.....      | 53,000              |
| At sea, Pacific entrance..... | 33,000              |
| North of Gold Hill.....       | 600                 |
| Total.....                    | 560,100             |

## MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations, and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form:

|                                    | August, 1921.   | July, 1921.     | August, 1920.   |
|------------------------------------|-----------------|-----------------|-----------------|
|                                    | <i>Gallons.</i> | <i>Gallons.</i> | <i>Gallons.</i> |
| Pumping stations.....              | 740,414,000     | 734,425,000     | 598,914,825     |
| Filtration plants.....             | 455,145,000     | 449,527,000     | 477,394,000     |
| Water consumed by Panama City..... | 97,595,000      | 90,690,000      | 83,685,000      |
| Water consumed by Colon.....       | 54,005,250      | 55,490,000      | 57,144,000      |
| Sales of water to vessels.....     | 12,239,017      | 9,709,842       | 14,345,592      |



Construction work, as itemized below, was under progress during the month, with completion on July 31 and August 31 as shown:

|                                                                  | Per cent completed. |            |
|------------------------------------------------------------------|---------------------|------------|
|                                                                  | July 31.            | August 31. |
| New wash water tank, Miraflores.....                             | 95                  | 100        |
| Construction of new concrete sea-wall, Santo Tomas Hospital..... | 43                  | 50         |
| Extension of roads, new Santo Tomas Hospital.....                | 6                   | 6          |
| Concrete roof, low service reservoir.....                        | 52                  | 70         |
| Grading at Silver City, Mount Hope.....                          | 45                  | 60         |
| Storm sewer, Balboa.....                                         | 97                  | 100        |
| Storm drain, buildings 3 and 4, Balboa shops.....                | 20                  | 100        |
| Storm sewer, Diablo road, at lumber shed.....                    |                     | 45         |
| Foundation for statue of Balboa.....                             |                     | 32         |

Municipal work performed for the Army and Navy is separately reported.

#### OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                          | Men.  | Women. | Children. | Totals.       |             |               |
|--------------------------|-------|--------|-----------|---------------|-------------|---------------|
|                          |       |        |           | August, 1921. | July, 1921. | August, 1920. |
| Americans.....           | 2,758 | 1,990  | 2,308     | 7,056         | 7,280       | 8,271         |
| Europeans.....           | 138   | 28     | 65        | 231           | 238         | 226           |
| West Indians.....        | 5,168 | 2,611  | 5,387     | 13,166        | 12,969      | 10,835        |
| Total, August, 1921..... | 8,064 | 4,629  | 7,760     | 20,453        |             |               |
| Total, July, 1921.....   | 8,103 | 4,668  | 7,716     |               | 20,487      |               |
| Total, August, 1920..... | 8,696 | 4,093  | 6,543     |               |             | 19,332        |

#### WORKING FORCE—NUMBER OF EMPLOYEES.

The total number of employees as of August 24, 1921, was 12,818, as compared with 19,603 as of August 18, 1920, making the number of employees on the rolls at the present time approximately 65 per cent of the number 1 year ago.

The following tabulation shows the number of gold and silver employees, as of August 24, 1921, by departments, together with a comparison of the working force of the preceding month, and that of August, 1920:

| Department or division.           | Employees. |         | Total employees. |             |               |
|-----------------------------------|------------|---------|------------------|-------------|---------------|
|                                   | Gold.      | Silver. | August, 1921.    | July, 1921. | August, 1920. |
| Operation and Maintenance:        |            |         |                  |             |               |
| Office.....                       | 28         | 33      | 61               | 65          | 73            |
| Electrical Division.....          | 176        | 182     | 358              | 369         | 504           |
| Municipal Engineering.....        | 89         | 738     | 827              | 865         | 1,231         |
| Lock Operation.....               | 178        | 551     | 729              | 738         | 746           |
| Dredging Division.....            | 160        | 743     | 903              | 902         | 1,330         |
| Mechanical Division.....          | 605        | 1,067   | 1,672            | 1,708       | 2,771         |
| Marine Division.....              | 167        | 448     | 615              | 718         | 669           |
| Fortifications.....               | 52         | 209     | 261              | 348         | 435           |
| Totals.....                       | 1,455      | 3,971   | 5,426            | 5,713       | 7,759         |
| Supply Department:                |            |         |                  |             |               |
| Quartermaster.....                | 202        | 1,275   | 1,477            | 1,647       | 3,566         |
| Subsistence.....                  | 28         | 261     | 289              | 307         | 433           |
| Commissary.....                   | 214        | 1,104   | 1,318            | 1,401       | 1,923         |
| Cattle Industry, Plantations..... | 16         | 130     | 146              | 159         | 497           |
| Hotel Washington.....             | 10         | 89      | 99               | 97          | 102           |
| Totals.....                       | 470        | 2,859   | 3,329            | 3,611       | 6,521         |
| Accounting Department.....        | 207        | 7       | 214              | 216         | 262           |
| Health Department.....            | 245        | 724     | 969              | 1,093       | 1,085         |
| Executive.....                    | 531        | 227     | 758              | 779         | 789           |
| Totals.....                       | 983        | 958     | 1,941            | 2,088       | 2,136         |



| Department or division.              | Employees. |         | Total employees. |             |               |
|--------------------------------------|------------|---------|------------------|-------------|---------------|
|                                      | Gold.      | Silver. | August, 1921.    | July, 1921. | August, 1920. |
| Panama Railroad:                     |            |         |                  |             |               |
| Superintendent.....                  | 64         | 335     | 399              | 409         | 644           |
| Transportation.....                  | 93         | 116     | 209              | 214         | 341           |
| Receiving and Forwarding Agency..... | 69         | 772     | 841              | 962         | 1,237         |
| Coaling stations.....                | 105        | 568     | 673              | 686         | 965           |
| Totals.....                          | 331        | 1,791   | 2,122            | 2,271       | 3,187         |
| Grand totals, August, 1921.....      | 3,239      | 9,579   | 12,818           |             |               |
| Grand totals, July, 1921.....        | 3,349      | 10,334  |                  | 13,683      |               |
| Grand totals, August, 1920.....      | 4,569      | 15,034  |                  |             | 19,603        |

## VITAL STATISTICS.

A total of 184 deaths occurred during the month of August, 1921, among the population of the Canal Zone and the cities of Panama and Colon, equivalent to an annual death rate of 17.73 per thousand. The 3 leading causes of death were tuberculosis, diarrhea and enteritis, and pneumonia. Among other causes of death listed were 4 from dysentery, 2 each from malaria, influenza, and diphtheria, 1 from measles, and 8 from external causes. Of the above deaths, 82, or 44 per cent, occurred among children under 5 years of age.

There were 12 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

Three hundred and forty-eight live births were reported during the month, and 20 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 35.46 per thousand population. Deaths among children under 1 year of age numbered 51, giving an infant mortality rate, based on the number of births reported for the month, of 146.55 per thousand.

One hundred and sixteen cases of malaria were reported during the month, divided as follows: Employees, 21; nonemployees, 73; soldiers, 22. The origin of these malarial cases was as follows: Panama City, 5; Colon, 2; Canal Zone, 84; elsewhere, 25.

Three cases of typhoid fever were reported: 2 from Colon, and 1 from Panama. Two cases of smallpox were reported, 1 from Colon, and 1 nonresident.

## RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, and cash sales from stock, as compared with the preceding month, and the corresponding month of last year, were as follows:

|                                                                                  | August, 1921. | July, 1921.  | August, 1920. |
|----------------------------------------------------------------------------------|---------------|--------------|---------------|
| Material received on U. S. requisitions during the month, chargeable as follows: |               |              |               |
| Operation and Maintenance.....                                                   | \$231,470.63  | \$233,899.82 | \$807,357.87  |
| Construction and equipment.....                                                  |               | 286.40       | 34,216.92     |
| Miscellaneous departments.....                                                   | 17,068.84     | 9,434.67     | 21,706.60     |
| Totals.....                                                                      | 248,539.47    | 243,618.89   | 863,281.39    |
| Cash sales on the Isthmus:                                                       |               |              |               |
| Stock.....                                                                       | \$26,170.91   | \$36,324.40  | \$43,752.62   |
| Fuel oil (including sales to steamships).....                                    | 1,947.40      | 993.60       | 138,649.85    |
| Scrap.....                                                                       | 1,270.07      | 728.95       | 5,757.18      |
| Obsolete and second-hand material.....                                           | 5,432.93      | 3,040.20     | 4,600.40      |
| Totals.....                                                                      | 34,821.31     | 41,087.15    | 192,760.05    |
| Sales to steamships from storehouses:                                            |               |              |               |
| Miscellaneous stock items.....                                                   | 9,136.56      | 17,594.80    | 13,246.29     |
| Fuel oil.....                                                                    | 1,207.40      | 993.60       | 38,309.45     |
| Totals.....                                                                      | 10,343.96     | 18,588.40    | 51,555.74     |

Respectfully,

M. L. WALKER,  
Acting Governor.

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, August, 1921.\*

| From—                                          | NORTH AMERICA.             |                            |               |                          |              |                  |                          |                          |                          |                | EUROPE.      |              |               |               |               |               |                      |                |                |                                 | Grand total.   | Per cent of total cargo. |
|------------------------------------------------|----------------------------|----------------------------|---------------|--------------------------|--------------|------------------|--------------------------|--------------------------|--------------------------|----------------|--------------|--------------|---------------|---------------|---------------|---------------|----------------------|----------------|----------------|---------------------------------|----------------|--------------------------|
|                                                | UNITED STATES.             |                            |               |                          |              | NORTH AMERICA.   |                          |                          |                          |                | EUROPE.      |              |               |               |               |               |                      |                |                |                                 |                |                          |
|                                                | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports.   | Total, United<br>States. | West Indies. | Cristobal, C. Z. | East coast of<br>Canada. | East coast of<br>Mexico. | Total, North<br>America. | British Isles. | Denmark.     | France.      | Germany.      | Holland.      | Italy.        | Belgium.      | Europe. <sup>2</sup> | Norway.        | Total, Europe. | East coast of<br>South America. |                |                          |
| <b>SOUTH AMERICA:</b>                          |                            |                            |               |                          |              |                  |                          |                          |                          |                |              |              |               |               |               |               |                      |                |                |                                 |                |                          |
| Chile.....                                     | 17,590                     | 12,842                     | 12,481        | 42,913                   | 8            | 1,886            |                          |                          | 42,021                   | 7,090          | 755          | 5,206        | 400           | 102           | 10,546        |               |                      |                | 24,099         | 674                             | 67,020         | 12.8                     |
| Colombia.....                                  | 582                        |                            |               | 582                      |              | 1,465            |                          |                          | 2,468                    | 185            |              | 850          |               |               |               |               |                      |                | 1,035          |                                 | 3,142          | 0.6                      |
| Ecuador.....                                   | 487                        |                            |               | 487                      |              | 4,755            |                          |                          | 4,860                    | 8,876          |              |              |               |               |               |               |                      |                | 8,876          |                                 | 2,087          | 0.6                      |
| Peru.....                                      | 105                        |                            |               | 105                      |              | 718              |                          |                          | 4,006                    | 9,813          |              |              | 1,500         |               |               |               |                      |                | 11,313         |                                 | 13,736         | 2.6                      |
| West coast of South America <sup>2</sup> ..... | 3,288                      |                            |               | 3,288                    |              |                  |                          |                          |                          |                |              |              |               |               |               |               |                      |                |                |                                 | 15,319         | 3.0                      |
| <b>Total, South America.....</b>               | <b>22,052</b>              | <b>12,842</b>              | <b>12,481</b> | <b>47,375</b>            | <b>8</b>     | <b>8,824</b>     |                          |                          | <b>56,207</b>            | <b>25,064</b>  | <b>755</b>   | <b>6,056</b> | <b>1,900</b>  | <b>102</b>    | <b>10,546</b> |               |                      |                | <b>45,323</b>  | <b>674</b>                      | <b>102,204</b> | <b>19.6</b>              |
| <b>NORTH AMERICA:</b>                          |                            |                            |               |                          |              |                  |                          |                          |                          |                |              |              |               |               |               |               |                      |                |                |                                 |                |                          |
| West coast of United States.....               | 89,752                     | 880                        | 4,784         | 95,416                   | 3,961        | 619              | 1,705                    | 2,762                    | 102,838                  | 124,166        | 2,762        | 6,066        | 5,976         | 10,034        | 4,374         | 37,228        | 70                   | 190            | 676            | 50,293                          | 564            | 56.3                     |
| West coast of Canada.....                      | 2,650                      | 350                        |               | 3,000                    |              |                  |                          |                          | 4,705                    | 55             |              | 163          | 55            |               |               |               |                      |                | 273            | 4,978                           | 0.9            |                          |
| West coast of Central America.....             | 180                        | 18                         |               | 198                      |              | 3,636            |                          |                          | 3,834                    |                | 482          | 31           |               |               |               |               |                      | 438            | 951            | 4,785                           | 0.9            |                          |
| <b>Total, North America.....</b>               | <b>92,582</b>              | <b>1,248</b>               | <b>4,784</b>  | <b>98,614</b>            | <b>3,961</b> | <b>4,255</b>     | <b>1,705</b>             | <b>2,842</b>             | <b>111,377</b>           | <b>124,221</b> | <b>3,244</b> | <b>6,260</b> | <b>6,031</b>  | <b>10,034</b> | <b>4,374</b>  | <b>37,228</b> | <b>508</b>           | <b>191,900</b> | <b>50,303</b>  | <b>327</b>                      | <b>58.1</b>    |                          |
| <b>ASIA:</b>                                   |                            |                            |               |                          |              |                  |                          |                          |                          |                |              |              |               |               |               |               |                      |                |                |                                 |                |                          |
| China.....                                     | 4,253                      |                            |               | 4,253                    |              |                  |                          |                          | 4,253                    |                |              |              |               |               |               |               |                      |                |                | 4,253                           | 0.8            |                          |
| Japan.....                                     | 659                        |                            |               | 659                      |              |                  |                          |                          | 659                      |                |              |              |               |               |               |               |                      |                |                | 659                             | 0.1            |                          |
| Philippines.....                               | 15,995                     |                            |               | 15,995                   |              |                  |                          |                          | 15,995                   |                |              |              |               |               |               |               |                      |                |                | 15,995                          | 3.1            |                          |
| Far East <sup>2</sup> .....                    | 8,073                      |                            |               | 8,073                    |              | 328              |                          |                          | 8,401                    |                |              |              |               |               |               |               |                      |                |                | 8,401                           | 1.6            |                          |
| <b>Total, Asia.....</b>                        | <b>28,980</b>              |                            |               | <b>28,980</b>            |              | <b>328</b>       |                          |                          | <b>29,308</b>            |                |              |              |               |               |               |               |                      |                |                | <b>29,308</b>                   | <b>5.6</b>     |                          |
| <b>AUSTRALASIA:</b>                            |                            |                            |               |                          |              |                  |                          |                          |                          |                |              |              |               |               |               |               |                      |                |                |                                 |                |                          |
| Australia.....                                 | 49                         |                            |               | 49                       |              |                  |                          |                          | 49                       | 2,950          |              |              |               |               |               |               |                      |                | 2,950          | 2,999                           | 0.6            |                          |
| New Zealand.....                               | 288                        |                            |               | 288                      |              |                  |                          |                          | 288                      | 39,827         |              |              |               |               |               |               |                      |                | 39,827         | 40,115                          | 7.7            |                          |
| Australasia <sup>2</sup> .....                 | 1,248                      |                            |               | 1,248                    |              |                  |                          |                          | 1,248                    | 12,100         |              |              |               |               |               |               |                      |                | 12,100         | 13,348                          | 2.6            |                          |
| <b>Total, Australasia.....</b>                 | <b>1,585</b>               |                            |               | <b>1,585</b>             |              |                  |                          |                          | <b>1,585</b>             | <b>54,877</b>  |              |              |               |               |               |               |                      |                | <b>54,877</b>  | <b>56,462</b>                   | <b>10.9</b>    |                          |
| <b>HAWAII:</b>                                 |                            |                            |               |                          |              |                  |                          |                          |                          |                |              |              |               |               |               |               |                      |                |                |                                 |                |                          |
| East coast, South America.....                 | 29,700                     |                            |               | 29,700                   |              |                  |                          |                          | 29,700                   | 302            |              |              |               |               |               |               |                      |                | 302            | 29,700                          | 5.7            |                          |
| <b>Grand totals.....</b>                       | <b>174,899</b>             | <b>14,090</b>              | <b>17,265</b> | <b>206,254</b>           | <b>3,969</b> | <b>13,407</b>    | <b>1,705</b>             | <b>2,842</b>             | <b>228,177</b>           | <b>295,364</b> | <b>3,244</b> | <b>755</b>   | <b>12,316</b> | <b>7,931</b>  | <b>10,034</b> | <b>4,476</b>  | <b>47,774</b>        | <b>508</b>     | <b>292,402</b> | <b>724,521</b>                  | <b>303</b>     | <b>100.0</b>             |
| Per cent of total cargo, August, 1921.....     | 33.6                       | 2.7                        | 3.3           | 39.6                     | 0.8          | 2.6              | 0.3                      | 0.5                      | 43.8                     | 39.4           | 0.6          | 0.1          | 2.4           | 1.5           | 2.0           | 0.9           | 9.1                  | 0.1            | 56.1           | 0.1                             | 100.0          |                          |
| Per cent of total cargo, July, 1921.....       | 29.0                       | 2.8                        | 4.7           | 36.5                     | 0.8          | 2.5              | 0.7                      |                          | 40.5                     | 36.7           | 1.7          | 0.7          | 71.7          | 3.5           | 2.2           |               | 11.4                 |                | 59.4           | 0.1                             |                |                          |

\* Figures represent tons of 2,240 pounds.

† General cargo not routed so as to allow segregation between definite ports.

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, August, 1921.\*

| FROM—                                      | SOUTH AMERICA. |           |          |       |                                           | NORTH AMERICA.       |                              |         |                                |               | ASIA.                |        |        |              |                        | AUSTRALASIA. |            |              | Grand totals. | Per cent of total cargo. |              |                    |         |       |
|--------------------------------------------|----------------|-----------|----------|-------|-------------------------------------------|----------------------|------------------------------|---------|--------------------------------|---------------|----------------------|--------|--------|--------------|------------------------|--------------|------------|--------------|---------------|--------------------------|--------------|--------------------|---------|-------|
|                                            | Chile.         | Colombia. | Ecuador. | Peru. | West coast of South America. <sup>2</sup> | Total South America. | West coast of United States. | Canada. | West coast of Central America. | Balboa, C. Z. | Total North America. | China. | Japan. | Philippines. | Far East. <sup>2</sup> | Total Asia.  | Australia. | New Zealand. |               |                          | Australasia. | Total Australasia. | Hawaii. |       |
| NORTH AMERICA:                             |                |           |          |       |                                           |                      |                              |         |                                |               |                      |        |        |              |                        |              |            |              |               |                          |              |                    |         |       |
| North Atlantic ports.....                  | 2,727          | 372       | 230      | 563   | 6,250                                     | 10,142               | 45,731                       | 2       | 333                            | 46,066        | 9,313                | 20,306 | 4,153  | 32,675       | 66,447                 | 11,050       | 11,050     | 890          | 134,595       | 42.3                     |              |                    |         |       |
| South Atlantic ports.....                  | 1,503          | .....     | .....    | ..... | 3,694                                     | 5,197                | 2,030                        | .....   | 9,181                          | 11,211        | 3,657                | 4,237  | .....  | 5,594        | 13,488                 | .....        | .....      | .....        | 29,896        | 9.4                      |              |                    |         |       |
| Gulf ports.....                            | 1,164          | .....     | 130      | 35    | 1,329                                     | 6,416                | .....                        | .....   | 9,600                          | 16,016        | 6,714                | 17,988 | .....  | 11,163       | 35,865                 | 20,100       | .....      | .....        | 73,310        | 23.1                     |              |                    |         |       |
| Total, United States.....                  | 5,394          | 372       | 360      | 598   | 9,944                                     | 16,668               | 54,177                       | 2       | 19,114                         | 73,293        | 19,684               | 42,531 | 4,153  | 49,432       | 115,800                | 20,100       | .....      | .....        | 890           | 237,801                  | 74.8         |                    |         |       |
| East coast of Mexico.....                  | 7,718          | .....     | .....    | ..... | 10,000                                    | 17,718               | .....                        | .....   | 9,000                          | 9,000         | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 26,718        | 8.1                      |              |                    |         |       |
| Cristobal, Canal Zone.....                 | 87             | 415       | 74       | 173   | 2,963                                     | 3,712                | 1,794                        | .....   | 1,128                          | 2,922         | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 6,634         | 2.4                      |              |                    |         |       |
| West Indies.....                           | .....          | .....     | .....    | ..... | .....                                     | .....                | 7,000                        | .....   | .....                          | 7,090         | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 1,000         | 2.2                      |              |                    |         |       |
| Total, North America.....                  | 13,199         | 787       | 434      | 771   | 22,907                                    | 38,098               | 55,971                       | 7,002   | 1,128                          | 28,114        | 92,215               | 9,684  | 42,531 | 4,153        | 49,432                 | 115,880      | 20,100     | .....        | 11,050        | 31,150                   | 890          | 278,153            | 87.5    |       |
| EUROPE:                                    |                |           |          |       |                                           |                      |                              |         |                                |               |                      |        |        |              |                        |              |            |              |               |                          |              |                    |         |       |
| Belgium.....                               | 1,310          | .....     | .....    | 267   | 1,577                                     | 2,405                | 757                          | .....   | .....                          | 3,162         | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | 8,351        | 7,915         | 16,266                   | .....        | .....              | 1,577   | 0.5   |
| British Isles.....                         | 552            | .....     | 1,218    | ..... | 2,742                                     | 4,512                | .....                        | .....   | .....                          | .....         | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 23,940        | 7.5                      |              |                    |         |       |
| Denmark.....                               | .....          | .....     | .....    | ..... | 1,245                                     | 1,245                | .....                        | .....   | .....                          | .....         | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 1,245         | 0.4                      |              |                    |         |       |
| France.....                                | .....          | 119       | 29       | 374   | 522                                       | .....                | 66                           | .....   | .....                          | 66            | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 5,522         | 0.2                      |              |                    |         |       |
| Germany.....                               | 2,840          | .....     | 25       | 33    | 2,341                                     | 5,239                | 66                           | .....   | .....                          | .....         | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 5,305         | 1.6                      |              |                    |         |       |
| Norway.....                                | 280            | .....     | .....    | ..... | 280                                       | .....                | 600                          | .....   | .....                          | 600           | .....                | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 280           | 0.1                      |              |                    |         |       |
| Europe <sup>2</sup> .....                  | .....          | .....     | .....    | ..... | 4,243                                     | 4,243                | 600                          | .....   | .....                          | .....         | 600                  | .....  | .....  | .....        | .....                  | .....        | .....      | .....        | 4,843         | 1.5                      |              |                    |         |       |
| Total, Europe.....                         | 4,982          | .....     | 144      | 1,547 | 10,945                                    | 17,618               | 3,071                        | 757     | .....                          | .....         | 3,828                | .....  | .....  | .....        | .....                  | .....        | .....      | 8,351        | 7,915         | 16,266                   | .....        | .....              | 37,712  | 11.8  |
| East coast of South America.....           | .....          | 706       | .....    | ..... | .....                                     | 706                  | 770                          | .....   | .....                          | .....         | 770                  | .....  | 629    | .....        | .....                  | 629          | .....      | .....        | .....         | .....                    | .....        | .....              | 2,105   | 0.7   |
| Grand totals.....                          | 18,181         | 1,493     | 578      | 2,318 | 33,852                                    | 56,422               | 59,812                       | 7,759   | 1,128                          | 28,114        | 96,813               | 19,684 | 43,160 | 4,153        | 49,432                 | 116,429      | 20,100     | 8,351        | 18,965        | 47,416                   | 890          | 317,970            | 100.0   | 0     |
| Per cent of total cargo, August, 1921..... | 5.7            | 0.5       | 0.2      | 0.7   | 10.6                                      | 17.7                 | 18.8                         | 2.4     | 0.4                            | 8.8           | 30.4                 | 6.2    | 13.6   | 1.3          | 15.6                   | 36.7         | 6.3        | 2.6          | 6.0           | 14.9                     | 0.3          | 100.0              | .....   | ..... |
| Per cent of total cargo, July, 1921.....   | 7.2            | 0.3       | 0.1      | 1.7   | 5.3                                       | 14.6                 | 35.6                         | 1.0     | 3.2                            | 0.4           | 40.5                 | 3.3    | 11.3   | .....        | 12.8                   | 27.4         | 2.4        | 9.8          | 3.1           | 15.3                     | 2.2          | .....              | .....   |       |

\* Figures represent tons of 2,240 pounds.

\* General cargo not routed so as to allow segregation between definite ports.

# MOVEMENTS OF OCEAN VESSELS. Week ending at midnight, September 24, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                   | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line.                               | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.            |       | Panama Canal tonnage. |       |
|-------------------------|------------------|-------|----------------|-------|--------------------|-------|--------------|-------------------------------------|---------|-------|-------------------|---------------|----------------|-------------------|-------|-----------------------|-------|
|                         | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |                                     |         |       |                   |               |                | Nature.           | Tons. | Gross.                | Net.  |
| Santa Rosalia.          | 17               | 16.58 | 18             | 6.20  | 18                 | 14.08 | American     | Isthmian Steamship Line.            | 405.0   | 52.0  | 25.0              | New York.     | Kobe.          | General.          | 7,523 | 5,802                 | 4,414 |
| Speziades.              | 16               | 9.10  | 18             | 6.21  | 18                 | 13.53 | American     | A. J. Gowen.                        | 98.0    | 17.0  | 6.0               | Kinston.      | Tahiti.        | Ballast.          | 7,889 | 6,636                 | 50    |
| San Jacinto.            | 18               | 7.30  | 18             | 6.21  | 18                 | 16.30 | British      | Eagle Oil Transp. Co.               | 429.0   | 51.0  | 26.8              | Tampico.      | Valparaiso.    | Fuel oil.         | 7,889 | 6,636                 | 4,408 |
| Pennarth.               | 19               | 12.18 | 19             | 6.30  | 19                 | 19.31 | British      | R. S. Daglish.                      | 410.0   | 53.0  | 17.0              | Liverpool.    | Puget Sound.   | Ballast.          | 7,617 | 6,179                 | 4,337 |
| Knoxville City.         | 19               | 2.45  | 19             | 7.27  | 19                 | 15.35 | American     | United States Steel Products Co.    | 425.0   | 56.0  | 26.0              | Galveston.    | Kobe.          | General.          | 7,761 | 7,539                 | 5,448 |
| O-1.                    | 19               | 7.50  | 19             | 7.50  | 19                 | 15.49 | American     | United States Navy.                 |         |       |                   | Cristobal.    | Balboa.        |                   |       |                       |       |
| O-13.                   | 19               | 7.50  | 19             | 7.50  | 19                 | 15.49 | American     | United States Navy.                 |         |       |                   | Cristobal.    | Balboa.        |                   |       |                       |       |
| O-14.                   | 19               | 7.50  | 19             | 7.50  | 19                 | 15.46 | American     | United States Navy.                 |         |       |                   | Cristobal.    | Balboa.        |                   |       |                       |       |
| Quilque.                | 18               | 2.25  | 20             | 6.15  | 20                 | 14.06 | British      | Pacific Steam Navigation Co.        | 361.0   | 46.0  | 18.7              | New York.     | Guayaquil.     | General.          | 168   | 4,742                 | 3,023 |
| Asayanax.               | 19               | 17.25 | 20             | 7.35  | 20                 | 15.12 | British      | Alfred Holt & Co.                   | 392.0   | 49.0  | 20.6              | New Castle.   | San Francisco. | General.          | 4,032 | 5,105                 | 3,211 |
| Flom Branch.            | 19               | 19.18 | 20             | 8.30  | 20                 | 15.59 | British      | F. and W. Risdon.                   | 398.0   | 54.0  | 19.0              | New Castle.   | Coronel.       | General.          | 2,240 | 5,761                 | 3,881 |
| Freeport Sulphur No. 5. | 20               | 8.12  | 20             | 10.55 | 20                 | 18.29 | American     | Freeport Sulphur Transp. Co.        | 355.0   | 52.0  | 23.6              | Texas City.   | San Francisco. | Sulphur.          | 5,750 | 4,940                 | 3,316 |
| Aysen.                  | 16               | 16.15 | 21             | 6.11  | 21                 | 14.05 | Chilean.     | Chilean Steamship Line.             | 379.0   | 44.0  | 20.8              | Cristobal.    | Valparaiso.    | General.          | 564   | 4,535                 | 3,068 |
| Santa Teresa.           | 20               | 16.46 | 21             | 6.15  | 21                 | 14.34 | American     | W. R. Grace & Co.                   | 360.0   | 51.0  | 23.8              | New York.     | Valparaiso.    | General.          | 1,438 | 5,726                 | 4,086 |
| Paris City.             | 20               | 15.15 | 21             | 7.40  | 21                 | 15.05 | British      | St. Just Steamship Co.              | 412.0   | 55.0  | 15.0              | Texas City.   | Sydney.        | Ballast.          | 6,673 | 4,764                 |       |
| Kinkasan Maru.          | 20               | 22.15 | 21             | 8.05  | 21                 | 16.19 | Japanese.    | Mitsui & Co.                        | 339.0   | 53.0  | 23.0              | New York.     | Yokohama.      | General.          | 5,550 | 5,520                 | 3,570 |
| Terrier.                | 21               | 6.00  | 21             | 8.45  | 21                 | 16.26 | Norwegian.   | W. Witholshusen.                    | 409.0   | 52.0  | 15.0              | Norfolk.      | Portland.      | Ballast.          | 1,750 | 5,631                 | 4,121 |
| Munares.                | 21               | 7.17  | 21             | 9.22  | 21                 | 17.28 | American     | Munson Steamship Line.              | 370.0   | 53.0  | 16.0              | Galveston.    | Port Alice.    | Crude sulphur.    | 1,750 | 5,577                 | 4,225 |
| Floridan.               | 21               | 9.20  | 21             | 10.20 | 21                 | 18.16 | American     | American-Hawaiian Line.             | 415.0   | 54.0  | 23.0              | New York.     | Los Angeles.   | General.          | 2,505 | 7,273                 | 5,105 |
| Balboa.                 | 19               | 16.48 | 21             | 11.00 | 21                 | 19.08 | American     | Colombian Maritime Co.              | 190.0   | 29.0  | 11.0              | Cristobal.    | Buenaventura.  | Ballast.          | 3,090 | 2,444                 | 1,571 |
| North American.         | 21               | 6.00  | 21             | 12.50 | 21                 | 20.10 | British      | North American Steamship Co.        | 250.0   | 45.0  | 20.1              | New York.     | Malabridge.    | Coal and general. | 1,750 | 5,577                 | 4,225 |
| Anna E.                 | 21               | 6.00  | 21             | 6.00  | 21                 | 7.14  | American     | C. A. Blair.                        | 304.0   | 39.0  | 21.7              | Cristobal.    | Gatun Lake.    | General.          | 1,750 | 5,577                 | 4,225 |
| Iris.                   | 21               | 13.45 | 22             | 6.00  | 22                 | 14.10 | American     | Pacific Transport Co.               | 339.0   | 49.0  | 21.7              | New Orleans.  | San Francisco. | General.          | 2,500 | 4,094                 | 2,924 |
| Theben.                 | 21               | 15.25 | 22             | 6.14  | 22                 | 14.15 | German.      | Kosmos Line.                        | 304.0   | 39.0  | 19.0              | Hamburg.      | Corral.        | General.          | 2,500 | 4,094                 | 2,924 |
| F. J. Luckenbach.       | 21               | 15.24 | 22             | 7.13  | 22                 | 15.27 | American     | Luckenbach Line.                    | 446.0   | 56.0  | 24.7              | New York.     | San Francisco. | General.          | 2,800 | 8,508                 | 6,179 |
| Scota.                  | 22               | 7.42  | 22             | 15.28 | 22                 | 16.29 | American     | United States Navy.                 |         |       |                   | Cristobal.    | Balboa.        |                   |       |                       |       |
| Fairfield City.         | 21               | 22.30 | 22             | 8.40  | 22                 | 16.27 | American     | United States Steel Products Co.    | 424.0   | 56.0  | 26.0              | Mohile.       | Taken Bar.     | Steel rails.      | 7,685 | 7,539                 | 5,448 |
| Kifu Maru.              | 23               | 12.43 | 23             | 7.05  | 23                 | 13.58 | Japanese.    | Kawasaki Kisen K. Kaisha.           | 335.0   | 51.0  | 17.0              | No-folk.      | Portland Ore.  | Ballast.          | 3,919 | 4,389                 |       |
| Cape Roman.             | 23               | 7.55  | 23             | 8.10  | 23                 | 15.32 | American     | Atl. Gulf & Pac. S. S. Co. (S. B.). | 376.0   | 52.0  | 22.0              | Mohile.       | Los Angeles.   | General.          | 2,390 | 5,142                 | 3,568 |
| Ashtville.              | 23               | 6.24  | 23             | 12.30 | 23                 | 18.57 | American     | United States Navy.                 | 225.0   | 41.0  | 14.5              | Port Limon.   | Balboa.        |                   |       |                       |       |
| Rotarian.               | 23               | 13.26 | 24             | 6.10  | 24                 | 14.07 | American     | Pacific Argentine-Brazil Line.      | 380.0   | 53.0  | 23.8              | Buenos Aires. | San Francisco. | General.          | 3,856 | 5,660                 | 4,174 |
| Yam.                    | 23               | 30.37 | 24             | 7.05  | 24                 | 15.09 | Japanese.    | Kokusan Kisen Kaishiki Kaisha.      | 400.0   | 53.0  | 18.0              | Cardiff.      | Wellington.    | Ballast.          | 5,900 | 10,631                | 7,606 |
| Egypti Maru.            | 23               | 30.37 | 24             | 8.55  | 24                 | 16.11 | British      | Shaw, Saville & Albion Co.          | 477.0   | 61.0  | 27.6              | London.       | Yokohama.      | General.          | 5,734 |                       |       |
| Tamui.                  | 24               | 11.38 | 24             | 11.40 | 24                 | 18.45 | British      | Ellerman & Bucknall.                | 391.0   | 54.0  | 25.6              | New York.     | San Francisco. | General.          | 6,102 |                       |       |
| City of Glasgow.        | 24               | 11.38 | 24             | 11.40 | 24                 | 18.45 | British      | Ellerman & Bucknall.                | 391.0   | 54.0  | 25.6              | New York.     | San Francisco. | General.          | 6,102 |                       |       |
| Adna.                   | 22               | 17.19 | 24             | 12.44 | 24                 | 19.31 | British      | Anglo-Saxon Petroleum Co.           | 403.5   | 52.3  | 27.0              | Ouracao.      |                | Ballast.          |       |                       |       |

<sup>1</sup> Yacht.

<sup>2</sup> Submarine.

<sup>3</sup> Launch.

<sup>4</sup> Tug, towing barge No. 469.

<sup>5</sup> Gunboat.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                 |    |    |    |    |    |    |    |    |    |    |    |          |                     |                                     |       |      |           |               |              |                 |       |        |        |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----------|---------------------|-------------------------------------|-------|------|-----------|---------------|--------------|-----------------|-------|--------|--------|
| Achilles 6      | 9  | 14 | 33 | 18 | 6  | 47 | 18 | 14 | 37 | 18 | 19 | 25       | American            | Panama Railroad Steamship Line      | 514.0 | 65.0 | 27.1      | Balboa        | Norfolk      | Ballast         |       | 11,519 | 7,008  |
| Trontolite      | 16 | 14 | 33 | 18 | 9  | 01 | 18 | 16 | 35 | 18 | 17 | 45       | American            | Standard Oil Co. of N. J.           | 419.4 | 57.2 | 24.0      | San Francisco | Tampico      | Ballast         |       | 7,345  | 5,429  |
| Artigas         | 18 | 12 | 05 | 18 | 13 | 52 | 18 | 20 | 30 | 18 | 20 | 30       | American            | N. Atl. and West. S. S. Co. (S. B.) | 390.0 | 54.2 | 21.3      | Seattle       | New York     | Lumber          |       | 4,505  | 6,161  |
| West Camak      | 18 | 21 | 30 | 19 | 7  | 42 | 19 | 15 | 30 | 19 | 22 | 40       | American            | Williams-Dimond Co. (S. B.)         | 410.5 | 54.0 | 26.0      | Portland      | London       | (*)             |       | 7,000  | 6,622  |
| Atlantie Maru   | 19 | 0  | 19 | 9  | 35 | 19 | 16 | 25 | 19 | 16 | 25 | Japanese | Kawasaki Co.        | 385.0                               | 51.0  | 26.2 | Portland  | United King   | Wheat        |                 | 7,187 | 6,251  |        |
| Balboa          | 19 | 4  | 30 | 19 | 8  | 31 | 19 | 16 | 48 | 21 | 11 | 00       | American            | Colonial Maritime Co.               | 190.0 | 29.1 | 15.3      | Buenaventura  | Cristobal    | Coffee          |       | 586    | 741    |
| Ebro            | 19 | 6  | 20 | 19 | 9  | 53 | 19 | 17 | 53 | 20 | 10 | 05       | British             | Pacific Steam Navigation Co.        | 450.3 | 57.8 | 23.0      | Valparaiso    | New York     | General         |       | 9,089  | 6,215  |
| Tenpazan        | 19 | 5  | 00 | 19 | 11 | 16 | 19 | 19 | 50 | 19 | 21 | 55       | Japanese            | Mitsui Co.                          | 380.0 | 53.2 | 23.0      | Portland      | Dublin       | Wheat           |       | 6,830  | 5,560  |
| Maru            | 19 | 8  | 00 | 19 | 12 | 01 | 19 | 20 | 45 | 19 | 20 | 45       | Peruvian            | Peruvian Line                       | 267.3 | 46.0 | 19.0      | Callao        | Cristobal    | General         |       | 2,007  | 4,038  |
| Mantaro         | 19 | 10 | 30 | 19 | 13 | 57 | 19 | 21 | 55 | 20 | 1  | 30       | American            | Matson Navigation Co. (S. B.)       | 517.0 | 72.2 | 29.6      | Hilo          | Baltimore    | (*)             |       | 7,165  | 15,234 |
| Buckeye State   | 19 | 23 | 30 | 20 | 7  | 48 | 20 | 15 | 20 | 21 | 12 | 07       | French              | French Line                         | 397.8 | 51.0 | 22.0      | Valparaiso    | Havre        | Barley, general |       | 5,200  | 5,979  |
| Saint Joseph    | 19 | 30 | 30 | 20 | 11 | 23 | 20 | 18 | 01 | 21 | 16 | 28       | Dutch               | Holland-American Line               | 472.8 | 61.0 | 26.6      | San Francisco | Rotterdam    | General         |       | 8,800  | 9,165  |
| Moerdijk        | 20 | 4  | 45 | 20 | 11 | 12 | 20 | 18 | 01 | 21 | 16 | 28       | Japanese            | Osaka Shosen Kaisha                 | 407.2 | 50.8 | 21.0      | Singapore     | New York     | General         |       | 5,015  | 6,234  |
| Havana Maru     | 20 | 13 | 50 | 21 | 7  | 43 | 21 | 16 | 21 | 16 | 25 | Japanese | Osaka Shosen Kaisha | 407.2                               | 50.8  | 21.0 | Singapore | New York      | General      |                 | 5,015 | 6,234  |        |
| West Haven      | 21 | 10 | 00 | 21 | 11 | 44 | 21 | 19 | 23 | 21 | 20 | 06       | American            | Atl. Gulf & Pac. S. S. Co. (S. B.)  | 409.6 | 54.1 | 26.0      | Seattle       | Baltimore    | (*)             |       | 7,734  | 6,665  |
| O-16            | 6  | 14 | 56 | 21 | 8  | 52 | 21 | 16 | 04 | 21 | 16 | 45       | American            | United States Navy                  | 175.0 | 16.4 |           | Balboa        | Cristobal    | General         |       | 5,823  | 5,221  |
| Myrrmdon        | 22 | 6  | 30 | 22 | 7  | 34 | 22 | 15 | 25 | 22 | 16 | 45       | British             | Alfred Holt & Co.                   | 391.5 | 49.2 | 25.4      | Seattle       | Liverpool    | General         |       | 7,872  | 8,552  |
| K. I. Lucken-   | 22 | 7  | 30 | 22 | 8  | 53 | 22 | 16 | 40 | 22 | 23 | 12       | American            | Luckenbach Line                     | 446.0 | 56.1 | 28.0      | San Francisco | New York     | Lumber, general |       | 8,964  | 7,188  |
| bach.           | 23 | 1  | 30 | 23 | 7  | 54 | 23 | 15 | 25 | 23 | 15 | 25       | British             | Larriaga & Co., Ltd.                | 439.8 | 56.0 | 25.5      | San Francisco | United King  | Barley          |       | 8,964  | 7,188  |
| Nieto de Lar-   | 23 | 2  | 00 | 23 | 8  | 45 | 23 | 16 | 20 | 23 | 16 | 40       | American            | Standard Oil Co.                    | 439.5 | 58.0 | 30.7      | San Francisco | Philadelphia | Lubricating oil |       | 11,000 | 8,912  |
| rriaga          | 23 | 2  | 00 | 23 | 8  | 45 | 23 | 16 | 20 | 23 | 16 | 40       | American            | Standard Oil Co.                    | 439.5 | 58.0 | 30.7      | San Francisco | Philadelphia | Lubricating oil |       | 11,000 | 8,912  |
| D. G. Schofield | 7  | 14 | 12 | 24 | 6  | 38 | 24 | 15 | 24 | 24 | 15 | 24       | American            | United States Navy                  | 308.1 | 44.5 | 17.9      | Balboa        | Key West     | (*)             |       | 908    | 1,213  |
| Galveston       | 23 | 17 | 10 | 24 | 6  | 45 | 24 | 14 | 08 | 24 | 14 | 08       | British             | Pacific Steam Navigation Co.        | 215.0 | 33.5 | 15.0      | Guayaquil     | Cristobal    | General         |       | 2,396  | 6,887  |
| Salvador        | 23 | 17 | 10 | 24 | 6  | 45 | 24 | 14 | 08 | 24 | 14 | 08       | British             | Pacific Steam Navigation Co.        | 215.0 | 33.5 | 15.0      | Guayaquil     | Cristobal    | General         |       | 2,396  | 6,887  |
| Victoria        | 24 | 5  | 00 | 24 | 8  | 35 | 24 | 16 | 23 | 24 | 19 | 05       | British             | Pacific Steam Navigation Co.        | 401.4 | 52.3 | 21.0      | Valparaiso    | Liverpool    | (*)             |       | 6,895  | 4,575  |
| Westward Ho     | 23 | 17 | 20 | 24 | 9  | 10 | 24 | 17 | 03 | 25 | 11 | 15       | American            | Thorndyke & Trenholme (S. B.)       | 410.0 | 54.2 | 24.0      | Tacoma        | Antwerp      | (*)             |       | 6,310  | 5,370  |
| Chancellor      | 24 | 7  | 30 | 24 | 9  | 32 | 24 | 17 | 55 | 24 | 20 | 05       | British             | T. and J. Harrison                  | 385.0 | 52.0 | 23.0      | San Francisco | London       | General         |       | 6,310  | 5,370  |

\* Collier.

\* Cruiser.

\* Sugar, pineapples, and general.

\* Copper, flour, lumber, and general.

\* Coffee, cocoa, ivory nuts, etc.

\* Barley, wheat, and flour.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |           |                                 |                          | *DEPARTURES. |              |                              |                               |
|------------|-----------|---------------------------------|--------------------------|--------------|--------------|------------------------------|-------------------------------|
| Date.      | Vessel.   | Line.                           | From—                    | Date.        | Vessel.      | Line.                        | For—                          |
| Sept. 18   | Atenas    | United Fruit Co.                | New Orleans.             | Sept. 18     | Perou        | French Line.                 | Havre.                        |
| Sept. 19   | Cartago   | United Fruit Co.                | New Orleans.             | Sept. 18     | Alonca       | United Fruit Co.             | Bocas del Toro.               |
| Sept. 19   | Venezuela | Royal Netherlands W. I. Mail    | Cartagena and Amsterdam. | Sept. 18     | Claret No. 7 | Abello Guas                  | Habana.                       |
|            |           |                                 |                          | Sept. 20     | Venezuela    | Royal Netherlands W. I. Mail | Port Limon.                   |
| Sept. 20   | Calamates | United Fruit Co.                | New York.                | Sept. 21     | Atenas       | United Fruit Co.             | New Orleans.                  |
| Sept. 20   | Caribbean | Panama Railroad Cattle Industry | Cartagena.               | Sept. 21     | Calamates    | United Fruit Co.             | New York via Port Limon.      |
| Sept. 21   | Atenas    | United Fruit Co.                | Bocas del Toro.          | Sept. 22     | Turralba     | United Fruit Co.             | New York via Kingston.        |
| Sept. 21   | Trivives  | United Fruit Co.                | New York via Kingston.   | Sept. 22     | Trivives     | United Fruit Co.             | New York via Colombian ports. |
| Sept. 22   | Venezuela | Royal Netherlands W. I. Mail    | Port Limon.              |              |              |                              |                               |

(Continued on page 120, column 2.)

### Tonnage Passing Through the Canal Compared with that Entering and Clearing United States Ports in Foreign Trade.

A comparison of the tonnage passing through the Panama Canal with that entering and clearing at various ports or customs districts of the United States in the foreign trade is available from figures published in an article "Shipping Activities in United States Ports," in *Commerce Reports* of September 5.

It should be borne in mind in making comparisons and visualizing the activities of the ports that the figures for the United States are for foreign trade only, and do not include the extensive coastwise traffic, while those for the Canal include all vessels.

The article says in part:

The total net tonnage of vessels entering United States ports in 1920 was 50,139,844, and the total net tonnage of clearances was 53,037,390. Of the total entrances 25,509,538 tons represented American vessels, and of clearances the amount representing American tonnage was 26,425,464.

For the Atlantic coast, exclusive of Florida, entrances totaled about 32,800,000 and clearances about 33,400,000 tons, with New York accounting for the major part. For the Pacific coast, entrances totaled about 5,300,000 and clearances about 6,000,000 tons. The balance is credited to Gulf districts and Florida. The following shows the rank of customs districts in vessel tonnage entered and cleared:

| Entrances.                   | Net tons.  | Clearances.                  | Net tons.  |
|------------------------------|------------|------------------------------|------------|
| New York.....                | 17,404,000 | New York.....                | 15,045,000 |
| New Orleans.....             | 4,577,000  | Virginia.....                | 6,658,000  |
| Virginia.....                | 3,724,000  | New Orleans.....             | 4,928,000  |
| Philadelphia.....            | 3,518,000  | Maryland.....                | 4,544,000  |
| Maryland.....                | 3,510,000  | Philadelphia.....            | 3,806,000  |
| Washington.....              | 3,346,000  | Washington.....              | 3,442,000  |
| Galveston.....               | 2,426,000  | Galveston.....               | 2,838,000  |
| Florida.....                 | 2,420,000  | Sabine.....                  | 2,317,000  |
| Massachusetts.....           | 2,249,000  | Florida.....                 | 2,269,000  |
| Sabine.....                  | 1,923,000  | San Francisco.....           | 1,601,000  |
| San Francisco.....           | 1,387,000  | Massachusetts.....           | 1,337,000  |
| Maine and New Hampshire..... | 693,000    | Mobile.....                  | 912,000    |
| Mobile.....                  | 627,000    | Maine and New Hampshire..... | 721,000    |
| Georgia.....                 | 609,000    | Georgia.....                 | 698,000    |
| South Carolina.....          | 578,000    | Los Angeles.....             | 554,000    |
| Rhode Island.....            | 373,000    | Oregon.....                  | 462,000    |
| Los Angeles.....             | 307,000    | South Carolina.....          | 410,000    |
| Oregon.....                  | 201,000    | Rhode Island.....            | 365,000    |
| North Carolina.....          | 172,000    | North Carolina.....          | 42,000     |
| San Antonio.....             | 45,000     | San Antonio.....             | 38,000     |
| Connecticut.....             | 25,000     | San Diego.....               | 26,000     |
| San Diego.....               | 14,000     | Connecticut.....             | 13,000     |

The difference between the two sets of figures for any district is due to the practice of vessels entering at one port and moving to another to secure cargo before clearing for a foreign destination. There are a number of striking illustrations of this practice, as in the case of Oregon showing for clearances more than twice the tonnage entered, and Connecticut showing entrances nearly twice as large as clearances. On the other hand, a very close approach to balance of movement is shown by the figures for Washington and for Rhode Island.

During the year 1920 the aggregate registered net tonnage of the 2,814 commercial vessels passing through the Panama Canal was 8,458,401 tons. This was greater than the entrances or clearances at any of the United States ports or districts with the exception of New York. It was approximately half as great as the foreign trade traffic in New York, and about one-sixth of the entrances or clearances in all the foreign trade of the United States.

Omitting the United States coastwise trade from the Canal total, there were approximately 7,660,000 net tons in other trade, passing through the Canal in 1920. This is more than the foreign trade traffic in any of the United States ports except New York.

**Cash Balance in Appropriations, August, 1921.**

BALBOA HEIGHTS, C. Z., September 24, 1921.

*The Honorable, the Secretary of War,**Washington, D. C.*

SIR: Herewith is a report showing the commissary sales, financial receipts and expenditures, and of the cash balance available in the Panama Canal appropriations for the month of August, 1921, as compared with the preceding month, and with the corresponding month of last year:

|                                                                                                         | August, 1921. * | July, 1921.     | August, 1920.   |
|---------------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| Cash balance available for expenditure:                                                                 |                 |                 |                 |
| In Canal appropriations.....                                                                            | \$13,754,717.93 | \$15,389,317.00 | \$19,050,868.15 |
| Payments made from appropriations:                                                                      |                 |                 |                 |
| By Paymaster on the Isthmus.....                                                                        | 1,139,592.07    | 1,272,050.24    | 1,663,441.16    |
| By Disbursing Clerk, Washington, D. C.....                                                              | 334,921.39      | 155,303.14      | 983,980.75      |
| To the Panama Railroad Company (for commissary books).....                                              | 224,170.75      | 238,914.68      | 373,836.31      |
| Collections on Isthmus:                                                                                 |                 |                 |                 |
| Repaid to appropriations.....                                                                           | 807,211.41      | 690,202.83      | 895,711.43      |
| Commissary and other trust funds.....                                                                   | 225,572.23      | 241,270.03      | 375,235.39      |
| Tolls.....                                                                                              | 955,404.98      | 804,523.91      | 929,574.44      |
| Sales of water.....                                                                                     | 2,240.65        | 20,517.30       | 4,932.35        |
| Postal receipts.....                                                                                    | 8,818.81        | 9,212.79        | 8,894.19        |
| Licenses, taxes, court fees, fines, etc.....                                                            | 3,250.24        | 3,884.30        | 4,198.17        |
| Sale of obsolete material.....                                                                          | 100.00          |                 | 18,516.88       |
| Total collections on Isthmus.....                                                                       | 2,002,598.32    | 1,769,611.16    | 2,237,062.85    |
| Collections by Disbursing Clerk, at Washington.....                                                     | 2,133.07        | 894.56          | 194,988.63      |
| Deposits with Assistant Treasurer, United States.....                                                   | 68,000.00       | 61,500.00       | 175,910.00      |
| Canal Zone and miscellaneous funds:                                                                     |                 |                 |                 |
| Receipts—                                                                                               |                 |                 |                 |
| Money order funds.....                                                                                  | 100,961.93      | 112,295.01      | 145,664.34      |
| Clubhouse funds.....                                                                                    | 35,698.27       | 36,428.49       | 31,269.98       |
| Interest.....                                                                                           | 1,505.79        | 3,100.80        | 949.43          |
| Trust funds.....                                                                                        | 401.50          | 2,295.68        | 339.00          |
| Total receipts.....                                                                                     | 138,567.49      | 154,119.98      | 178,222.75      |
| Disbursements—                                                                                          |                 |                 |                 |
| Money order funds.....                                                                                  | 195,525.14      | 102,300.00      | 183,700.00      |
| Clubhouse funds.....                                                                                    | 33,219.65       | 38,985.77       | 34,676.10       |
| Interest.....                                                                                           | 1,024.84        | 1,117.77        | 686.51          |
| Trust funds.....                                                                                        | 1,351.47        | 1,712.87        |                 |
| Total disbursements.....                                                                                | 231,121.10      | 144,116.41      | 219,062.61      |
| Pay roll on the Isthmus:                                                                                |                 |                 |                 |
| Maintenance and operation.....                                                                          | 812,342.32      | 834,414.82      | 1,225,345.30    |
| Sanitation.....                                                                                         | 81,301.70       | 81,864.02       | 81,395.09       |
| Civil Government.....                                                                                   | 51,695.94       | 52,043.89       | 52,535.39       |
| Construction and equipment.....                                                                         |                 |                 | 41.67           |
| Total.....                                                                                              | 945,339.96      | 968,322.73      | 1,359,317.45    |
| Requisitions for purchases in the United States.....                                                    | 42,794.44       | 69,919.63       | 1,947,226.44    |
| Sales of commissary supplies:                                                                           |                 |                 |                 |
| To The Panama Canal.....                                                                                | 100,250.39      | 107,409.37      | 138,916.37      |
| To steamships, other than those of the United States Government and Panama Railroad Steamship Line..... | 30,960.06       | 41,045.29       | 98,874.94       |
| To the Panama Railroad, including its steamships, and the Hotel Washington.....                         | 19,356.96       | 16,256.97       | 32,138.97       |
| To the United States Government, including the Army and Navy.....                                       | 178,585.33      | 136,086.07      | 106,806.51      |
| To individuals and companies through charge accounts.....                                               | 21,835.81       | 25,632.07       | 34,307.22       |
| To individuals purchasing coupons.....                                                                  | 370,094.79      | 390,604.33      | 593,430.35      |
| Total.....                                                                                              | 721,083.34      | 717,034.10      | 1,004,474.36    |

\* Balance on last day of month.

Respectfully,

M. L. WALKER,  
Acting Governor.



### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending September 24, 1921.

| Name of vessel. | Line or charterer.                   | Arrived.      | Departed.     | Cargo—     |        |
|-----------------|--------------------------------------|---------------|---------------|------------|--------|
|                 |                                      |               |               | Discharged | Laded. |
|                 |                                      |               |               | Tons.      | Tons.  |
| Jamaica.....    | Pacific Steam Navigation Co.....     |               | September 17. |            | 3½     |
| Aysen.....      | Compañia Sudamericana Vapores.....   |               | September 21. |            | 567    |
| Cristobal.....  | Panama Railroad Steamship Line.....  |               | September 22. |            |        |
| Colon.....      | Panama Railroad Steamship Line.....  |               | September 23. |            | 2,808  |
| Quillota.....   | Pacific Steam Navigation Co.....     | September 17. | September 17. | 8          |        |
| Acacjutla.....  | Pacific Steam Navigation Co.....     | September 17. |               | 283        |        |
| Quilpue.....    | Pacific Steam Navigation Co.....     | September 18. | September 20. | 11         | 14     |
| Mantaro.....    | Peruvian Steamship Line.....         | September 19. |               | 2,007      |        |
| Venezuela.....  | Royal Dutch West India Mail.....     | September 19. | September 23. | 85         | 1,585  |
| Cartago.....    | United Fruit Co.....                 | September 19. | September 22. | 844        | 285    |
| Balboa.....     | Colombian Maritime Co.....           | September 19. | September 21. | 587        |        |
| Caribbean.....  | Panama Railroad Cattle Industry..... | September 20. | September 22. | 400        | 1      |
| Calamares.....  | United Fruit Co.....                 | September 20. | September 21. | 240        | 250    |
| Tivives.....    | United Fruit Co.....                 | September 21. | September 22. | 59         | 140½   |
| Atenas.....     | United Fruit Co.....                 | September 21. | September 21. | 25         | 6½     |
| Turrialba.....  | United Fruit Co.....                 | September 22. | September 22. | 36         | 1      |
| Adna.....       | Anglo-Saxon Petroleum Co.....        | September 22. |               | 7,110      |        |
| San Pablo.....  | United Fruit Co.....                 | September 24. | September 24. | 29         |        |
| Bologna.....    | Italian Steamship Line.....          | September 24. |               | 101        |        |
| Solana.....     | Pacific Mail Steamship Co.....       | September 24. |               | 10,000     |        |

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending September 24, 1921.

| Name of vessel.  | Line or charterer.               | Arrived.      | Departed.     | Cargo—     |        |
|------------------|----------------------------------|---------------|---------------|------------|--------|
|                  |                                  |               |               | Discharged | Laded. |
|                  |                                  |               |               | Tons.      | Tons.  |
| Quilpue.....     | Pacific Steam Navigation Co..... | September 20. | September 20. |            | 15     |
| Havana Maru..... | Osaka Shosen Kaisha.....         | September 20. | September 21. | 1          |        |
| Choyo Maru.....  | Toyo Kisen Kaisha.....           | September 24. |               | 802        |        |

### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended September 24:

U. S. submarines *O-11*, dock, stage, clean, and paint; grind-in sea valves; renew zincs; perform minor structural repairs on hull; repair hydroplanes; install starboard torpedo tube shutter; install mast for submerged radio antennæ; renew portion of superstructure deck plating frames; manufacture and install bracket for anchor shafting; grind-in all engineering sea valves; *O-13*, dock, stage, clean, and paint; grind-in all C. and R. sea and stop valves; repair or renew underwater fittings; renew gaskets on torpedo room air induction valve; renew piping on lower torpedo tube and forward trim tank gauges; remove superstructure flood valves and repack stuffing boxes; galvanize all battery deck cover battens; manufacture and install 3 dogs for battery deck cover battens; repair all hydroplanes; renew leaky rivets on starboard side of water line; repair anchor gear; calibrate gauges; grind-in engineering sea valves; *O-14*, dock, stage, clean, and paint; overhaul C. and R. sea and stop valves; renew zincs as necessary; renew section of superstructure side plating; renew plate on master vent in fairwater; overhaul suction, vents, and kingston ballast valves; renew gaskets on battery ventilation valves; repack stuffing boxes on horizontal and vertical steering gear shafts; repair radio system; overhaul engineering sea and stop valves; repair stern tube; cruiser *Libia*, renew broken branch copper exhaust line, main feed pump; repair leak in flange, exhaust line, anchor engine; cut 4 openings in coal bunker; steamships *Trontolite*, repairs to circulating pump and engine; *Chifuku Maru*, repairs to main engine; *Donald McKay*, repairs to main feed pump; repair inboard and port fan engine; rebrick boilers; yacht *Speejacks*, splice wire for insulators in shrouds; tugs *Gatun*, dock, stage, clean, and paint bottom; *Coco Solo*, install two 80-gallon galvanized iron tanks; install galley pump in after starboard corner of cabin; barges *No. 101*, dock, stage, clean, scale bottom and paint bottom to light load line; *No. 146*, dock, stage, clean, scale bottom and paint



bottom to light load line; *No. 195*, dock, stage, clean, scale bottom and paint bottom to light load line.

PREVIOUSLY REPORTED.

U. S. submarines *O-15*, dock, stage, clean and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; *O-16*, dock, stage, clean and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; steamship *Panama*, reboiling and general overhaul to machinery and hull; launch *Pacific*, general repairs to hull.

The following vessels were at the Cristobal shops for repairs during the week ended September 26:

Tug *Engineer*, make foundation plate with cushion; assemble engine and generator and install; renew 1 floor plate in fireroom; calk end of butt strap aft end of boiler; furnish and install one 2-inch steam valve to injector; furnish, fit, and install 1 section of pipe for syphon in after hold; steamship *Solana*, renew 2 ice machine cans; supply 4 wind chutes for dynamo; U. S. S. *287*, dock and undock; clean and paint bottom; examine and renew where necessary screens on underwater suction; overhaul all C. and R. sea valves; repack rudder glands; repair shoe; renew zincs on hull; renew nipple for auxiliary circulating intake; pack stern glands; straighten 1 propeller blade; renew bushings on strut bearings; U. S. D. B. *L-53*, manufacture, fit, and install 1 pinion for deck winch, forward; manufacture, fit, and install 1 reverse gear clutch arm as sample; examine winch and put same in working order, etc.; steamships *Munaires*, *Balboa*, *West Haven*, *Acajutla*, *Tainui*, *Mantaro*, and *Venezuela*, minor repairs.

PREVIOUSLY REPORTED.

U. S. S. *Eagle No. 31*, overhaul sea valves and zincs; motor schooner *Satoe*, general overhauling, including dry-docking; steamship *Toedjoe*, install bulwarks; alter crew accommodations; U. S. S. P. *1841*, dock and undock; fit up for towing to the United States; U. S. S. *Paluxent*, repair 8 KW reciprocating dynamo; U. S. S. *Caesar*, manufacture and install new liners, etc.; steamships *Colon*, miscellaneous engine department repairs; *Cristobal*, miscellaneous engine and deck department repairs.

### Lowered Rates to New York on Certain Articles Produced in Panama.

The Panama Railroad Steamship Line has reduced rates, effective September 20, on a number of items of produce of Panama, for shipment from Colon or Cristobal to New York. The new rates are as follows:

| Article.                                                                                                                                                                                                                            | Rate.<br>(In U. S. currency.) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
|                                                                                                                                                                                                                                     | <i>Per 100 lbs.</i>           |
| Animals and birds, alive, in crates or boxes: <sup>1</sup>                                                                                                                                                                          |                               |
| Monkeys, parakeets, parrots, and macaws                                                                                                                                                                                             | \$1.00                        |
| Turtles                                                                                                                                                                                                                             | 1.95                          |
| Cocoas                                                                                                                                                                                                                              | .50                           |
| Coconuts <sup>2</sup>                                                                                                                                                                                                               | .30                           |
| Bananas without refrigeration <sup>3</sup>                                                                                                                                                                                          | .35                           |
| Ivory nuts <sup>2</sup>                                                                                                                                                                                                             | .30                           |
| Iron and steel scrap, K. D., including old rails and car wheels. <sup>3</sup> (Can be accepted only in limited quantities by previous agreement with Superintendent's office on the Isthmus). No piece or package over 4,000 pounds | .30                           |
| Woods:                                                                                                                                                                                                                              |                               |
| Balsa <sup>2</sup>                                                                                                                                                                                                                  | .50                           |
| Cedar logs <sup>2</sup>                                                                                                                                                                                                             | .40                           |
| Cocobolo wood <sup>2</sup>                                                                                                                                                                                                          | .40                           |
| Dyewood, N. O. S. <sup>2</sup>                                                                                                                                                                                                      | .95                           |
| Ebony <sup>2</sup>                                                                                                                                                                                                                  | .40                           |
| Fustic <sup>2</sup>                                                                                                                                                                                                                 | .40                           |
| Lignum-vitae <sup>2</sup>                                                                                                                                                                                                           | .40                           |
| Mahogany <sup>2</sup>                                                                                                                                                                                                               | .40                           |
| Palm sticks                                                                                                                                                                                                                         | .40                           |

<sup>1</sup> Per cubic foot. <sup>2</sup> Indicates a decrease in rate. <sup>3</sup> Freight charges to be adjusted at New York on measurements to be made by Constantine & Co., based on an allowance of Balsa, 33 pounds per cubic foot; cedar, 45 pounds per cubic foot; mahogany, 60 pounds per cubic foot.

### Peruvian Shipping and the Panama Canal.<sup>1</sup>

The following table shows the transits made by vessels under the Peruvian flag in either direction during each fiscal year since the Panama Canal was opened to navigation in August, 1914:

| Fiscal year. | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total. |
|--------------|----------------------------|----------------------------|--------|
| 1915.....    | 2                          | 2                          | 4      |
| 1916.....    | 16                         | 14                         | 30     |
| 1917.....    | 43                         | 43                         | 86     |
| 1918.....    | 41                         | 42                         | 83     |
| 1919.....    | 34                         | 31                         | 65     |
| 1920.....    | 37                         | 38                         | 75     |
| 1921.....    | 32                         | 28                         | 60     |
| Totals.....  | 205                        | 198                        | 403    |

The number of transits credited to Peru in 1921 is less than in any previous year since 1916. This may be attributed to the economic conditions of the past year, which require no comment.

One vessel included in the statistics for 1921 was a sailing ship belonging to the Peruvian Government bound from Callao to London with 4,000 tons of guano, 1 was a small steamer owned by E. Leith, of Lima, carrying 125 tons of briquettes from Halifax to Callao, and 1 was a yacht in ballast from Belize to Callao. All the other vessels belonged to the Compañía Peruana de Vapores y Dique de Callao (Peruvian Line). This company had 25 sailings from Cristobal to Callao and other ports on the west coast of South America with 26,762 tons of cargo, and 26 sailings from the west coast to Cristobal with 57,146 tons of cargo.

The Peruvian Line also dispatches an occasional steamer to the United States or to the United Kingdom via Panama, calling on either route at the principal ports along the coast as cargo offers. During the fiscal year 1921 it had 2 vessels southbound through the Canal from the United Kingdom with 6,901 tons of cargo, 1 vessel northbound to the United Kingdom with 2,128 tons, and 2 vessels southbound from the United States with 8,260 tons. The Peruvian Line steamers carry passengers as well as freight.

The total cargo moving through the Canal in Peruvian bottoms in 1921 was: Southbound, 42,048 tons, and northbound, 63,274 tons.

<sup>1</sup> This is the eighth of a series of articles on trade through the Panama Canal under different national flags. Those previously published concerned American, British, Japanese, Norwegian, Danish, Swedish, and Chilean shipping.

#### Deceased and Insane Employees.

The estates of the following deceased or insane employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

##### DECEASED.

| Name.                 | Check No. | Native of—    | Isthmian residence. | Employed by—            | Date of death.      |
|-----------------------|-----------|---------------|---------------------|-------------------------|---------------------|
| Nathaniel Jackson.... | 30755     | Jamaica.....  | Panama.....         | Health Department....   | September 18, 1921. |
| Eustace Prout.....    | 31299     | Trinidad..... | Colon.....          | Electrical Division.... | September 15, 1921. |

##### INSANE.

| Name.             | Check No. | Native of—    | Isthmian residence. | Employed by—     | Date of commitment. |
|-------------------|-----------|---------------|---------------------|------------------|---------------------|
| Alonzo Boyce..... | 42627     | Barbados..... | Gatun.....          | Gatun Locks..... | September 19, 1921. |

PANAMA RAILROAD PASSENGER TRAIN TIME-TABLE No. 35, EFFECTIVE OCTOBER 1, 1921.

| MAIN LINE STATIONS    |       |       |       | MAIN LINE STATIONS |        |                       |       | DAILY. |       |       |       | DAILY. |       |       |       |
|-----------------------|-------|-------|-------|--------------------|--------|-----------------------|-------|--------|-------|-------|-------|--------|-------|-------|-------|
| Leave                 | 3     | 5     | 7     | P. M.              | Panama | Leave                 | P. M. | 4      | 8     | P. M. | 8     | 4      | 8     | P. M. | 8     |
|                       |       |       |       |                    |        |                       |       |        |       |       |       |        |       |       |       |
| Colon.....            | 7.10  | 11.00 | 5.00  | 5.00               | 5.00   | Balboa Heights.....   | 7.10  | 11.00  | 11.00 | 5.00  | 5.00  | 7.10   | 11.00 | 11.00 | 5.00  |
| Mount Hope.....       | 7.15  | 11.05 | 5.05  | 5.05               | 5.05   | Corozal.....          | 7.15  | 11.05  | 11.05 | 5.05  | 5.05  | 7.15   | 11.05 | 11.05 | 5.05  |
| Fort Davis.....       | 7.24  | 11.14 | 5.14  | 5.14               | 5.14   | Fort Clayton.....     | 7.24  | 11.14  | 11.14 | 5.14  | 5.14  | 7.24   | 11.14 | 11.14 | 5.14  |
| Gatun.....            | 7.29  | 11.19 | 5.19  | 5.19               | 5.19   | Miraflores Locks..... | 7.29  | 11.19  | 11.19 | 5.19  | 5.19  | 7.29   | 11.19 | 11.19 | 5.19  |
| Monte Lirio.....      | 7.44  | 11.34 | 5.33  | 5.33               | 5.33   | Red Tank.....         | 7.44  | 11.34  | 11.34 | 5.33  | 5.33  | 7.44   | 11.34 | 11.34 | 5.33  |
| Frijoles.....         | 7.55  | 11.45 | 5.44  | 5.44               | 5.44   | Pedro Miguel.....     | 7.55  | 11.45  | 11.45 | 5.44  | 5.44  | 7.55   | 11.45 | 11.45 | 5.44  |
| Darien.....           | 8.00  | 11.52 | 5.51  | 5.51               | 5.51   | Summit.....           | 8.00  | 11.52  | 11.52 | 5.51  | 5.51  | 8.00   | 11.52 | 11.52 | 5.51  |
| Gamboa.....           | 8.16  | 12.04 | 6.04  | 6.04               | 6.04   | Summit.....           | 8.16  | 12.04  | 12.04 | 6.04  | 6.04  | 8.16   | 12.04 | 12.04 | 6.04  |
| Pedro Miguel.....     | 8.32  | 12.16 | 6.16  | 6.16               | 6.16   | Darien.....           | 8.32  | 12.16  | 12.16 | 6.16  | 6.16  | 8.32   | 12.16 | 12.16 | 6.16  |
| Red Tank.....         | 8.46  | 12.27 | 6.26  | 6.26               | 6.26   | Frijoles.....         | 8.46  | 12.27  | 12.27 | 6.26  | 6.26  | 8.46   | 12.27 | 12.27 | 6.26  |
| Miraflores Locks..... | 8.53  | 12.30 | 6.28  | 6.28               | 6.28   | Monte Lirio.....      | 8.53  | 12.30  | 12.30 | 6.28  | 6.28  | 8.53   | 12.30 | 12.30 | 6.28  |
| Fort Clayton.....     | 9.06  | 12.37 | 6.36  | 6.36               | 6.36   | Gatun.....            | 9.06  | 12.37  | 12.37 | 6.36  | 6.36  | 9.06   | 12.37 | 12.37 | 6.36  |
| Corozal.....          | 9.00  | 12.41 | 6.40  | 6.40               | 6.40   | Fort Davis.....       | 9.00  | 12.41  | 12.41 | 6.40  | 6.40  | 9.00   | 12.41 | 12.41 | 6.40  |
| Balboa Heights.....   | 9.05  | 12.50 | 6.45  | 6.45               | 6.45   | Mount Hope.....       | 9.05  | 12.50  | 12.50 | 6.45  | 6.45  | 9.05   | 12.50 | 12.50 | 6.45  |
| Panama.....           | 9.10  | 12.55 | 6.50  | 6.50               | 6.50   | Colon.....            | 9.10  | 12.55  | 12.55 | 6.50  | 6.50  | 9.10   | 12.55 | 12.55 | 6.50  |
| Arrive                | A. M. | P. M. | P. M. | P. M.              | P. M.  | Arrive                | A. M. | P. M.  | P. M. | P. M. | P. M. | A. M.  | P. M. | P. M. | P. M. |

| FORT RANDOLPH BRANCH STATIONS |       |       |       | DAILY |                               |       |       | DAILY |       |       |       | DAILY |       |       |       |
|-------------------------------|-------|-------|-------|-------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Leave                         | 16    | 18    | 20    | 22    | Daily except Sat. and Sunday. | 24    | 26    | 28    | 16    | 18    | 20    | 22    | 24    | 26    | 28    |
|                               |       |       |       |       |                               |       |       |       |       |       |       |       |       |       |       |
| Third Street Colon.....       | 8.50  | 11.55 | 1.55  | 4.25  | P. M.                         | 6.25  | 8.25  | 11.55 | 8.50  | 11.55 | 1.55  | 4.25  | 6.25  | 8.25  | 11.55 |
| Serenity Street.....          | 8.48  | 11.53 | 1.53  | 4.23  | P. M.                         | 6.23  | 8.23  | 11.53 | 8.48  | 11.53 | 1.53  | 4.23  | 6.23  | 8.23  | 11.53 |
| Orizaba Company.....          | 8.46  | 11.51 | 1.51  | 4.21  | P. M.                         | 6.21  | 8.21  | 11.51 | 8.46  | 11.51 | 1.51  | 4.21  | 6.21  | 8.21  | 11.51 |
| Tower Field.....              | 8.35  | 11.40 | 1.43  | 4.18  | P. M.                         | 6.18  | 8.18  | 11.40 | 8.35  | 11.40 | 1.43  | 4.18  | 6.18  | 8.18  | 11.40 |
| France Field.....             | 8.30  | 11.35 | 1.35  | 4.05  | P. M.                         | 6.05  | 8.05  | 11.35 | 8.30  | 11.35 | 1.35  | 4.05  | 6.05  | 8.05  | 11.35 |
| Coco Solo Station.....        | 8.25  | 11.30 | 1.30  | 4.00  | P. M.                         | 6.00  | 8.00  | 11.30 | 8.25  | 11.30 | 1.30  | 4.00  | 6.00  | 8.00  | 11.30 |
| Fort Randolph.....            | A. M. | A. M. | P. M. | P. M. | P. M.                         | P. M. | P. M. | P. M. | A. M. | A. M. | P. M. | P. M. | P. M. | P. M. | P. M. |
| Arrive                        | 18    | 18    | 20    | 22    |                               | 24    | 26    | 28    | 18    | 18    | 20    | 22    | 24    | 26    | 28    |

All trains stop where time is shown.







# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal, Washington, D. C.

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Volume XV.

Balboa Heights, C. Z., October 5, 1921.

No. 8.

## Canal Traffic during September.

Commercial traffic through the Panama Canal during the month of September fell slightly below that of the preceding month, but was higher than during the months of May, June, and July. The following shows a summary of the commercial traffic through the Canal for the past 6 months:

| 1921.          | No.<br>of<br>ships. | Panama<br>Canal net<br>tonnage. | Registered<br>gross<br>tonnage. | Tolls.       | Tons of<br>cargo. |
|----------------|---------------------|---------------------------------|---------------------------------|--------------|-------------------|
| April.....     | 227                 | 955,503                         | 1,203,087                       | \$927,977.09 | 907,613           |
| May.....       | 210                 | 864,617                         | 1,092,602                       | 835,882.77   | 792,735           |
| June.....      | 192                 | 761,477                         | 960,857                         | 751,964.12   | 694,720           |
| July.....      | 206                 | 810,613                         | 1,022,802                       | 804,503.11   | 708,982           |
| August.....    | 236                 | 965,276                         | 1,219,817                       | 955,380.78   | 839,273           |
| September..... | 221                 | 925,137                         | 1,167,220                       | 892,001.54   | 754,894           |

Commercial vessels passing from the Atlantic to the Pacific numbered 128, and in point of tonnage not only exceeded the September traffic of last year, but with the exception of the months of December, 1920, and March, 1921, is the greatest Atlantic-Pacific traffic since the opening of the Canal. Analysis of this traffic shows that approximately 56 per cent of the total traffic from the Atlantic to the Pacific was routed to the west coast of the United States and Canada, as compared with an average of approximately 26 per cent during the past fiscal year, ending June 30, 1921. Many of these vessels were in ballast, and presumably will return through the Canal laden with grain.

The traffic to the west coast of South America, in point of tonnage, represented 17 per cent of the total traffic from the Atlantic to the Pacific, as compared with an average of approximately 34 per cent during the past fiscal year. The traffic from Europe and the east coast of the United States to Australasia represented approximately 10 per cent as against an average of 17 per cent during the past fiscal year. Traffic to the Far East was about normal, representing approximately 15 per cent of the total traffic from the Atlantic to the Pacific.

Traffic from the Pacific to the Atlantic, with the exception of June, 1921, was the lowest, in point of tonnage, since June, 1920, and was approximately but three-fourths that of September, 1920. Analyzing the movement of vessels from the Pacific to the Atlantic, it is found that in point of tonnage, 60 per cent of the total traffic originated on the west coast of the United States and Canada, as compared with an average of approximately 32 per cent during the past fiscal year. Traffic from the west coast of South America, however, represented but 20 per cent of the total traffic from the Pacific to the Atlantic, as against an average of approximately 40 per cent for the past fiscal year. The South American movement, both ways, was affected by

almost complete stoppage of oil shipments from Mexico, and continued stagnation in the nitrate trade.

Traffic from Australasia to Europe and the east coast of the United States represented approximately 10 per cent of the total tonnage as compared with an average of approximately 17 per cent during the past fiscal year. Traffic from the Far East also fell off somewhat, the September traffic representing approximately 4 per cent of the total, as against an average of approximately 6 per cent during the past fiscal year.

### **Supplement No. 2 to Tariff No. 5.—Diesel Oil.—Pumping Oil.—Special Train.**

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
BALBOA HEIGHTS, C. Z., September 20, 1921.

#### **ITEM 22.—FUEL AND DIESEL OILS.** (Effective October 1, 1921.)

2. Diesel oil, per barrel of 42 gallons, delivered to vessels at Cristobal<sup>1</sup>. . . . \$3.60  
(NOTE—Diesel oil may be obtained from private concerns at Balboa, at approximately \$3.50 per barrel.)
3. Pumping oil into and out of private tanks, 4 cents per barrel, each way, excepting, that between the hours of 11 p. m. and 7 a. m., an additional charge of \$4.70 per hour will be made for pumping cargoes from ships into storage tanks. A charge of 10 cents per barrel will be made for pumping oil from storage tanks into ships between these hours. Oil having a viscosity greater than 780 seconds at 86° F. (Saybolt Furol viscosimeter) will not be handled by The Panama Canal.

#### **ITEM 35.—SPECIAL TRAIN.** (Effective September 20, 1921.)

1. Special train, consisting of engine, baggage or buffer car, and 1 coach, seating not to exceed 60 passengers; minimum charge, deposited or guaranteed in advance, \$100. The rate for a 1-way train will be the same as for a round trip within 8 hours. If train does not return to starting point within 8 hours, an additional charge of \$50 will be made.

All passengers must be provided with tickets or other regular forms of transportation.

M. L. WALKER,  
*Acting Governor, The Panama Canal.*  
*Second Vice President, Panama Railroad Company.*

### **Supplement No. 3 to Tariff No. 5.—Storage on Piers.—Fuel and Diesel Oils.**

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
BALBOA HEIGHTS, C. Z., October 1, 1921.

#### **ITEM 17.—STORAGE ON PIERS.** (Effective October 1, 1921.)

1. Transit cargo, routed and unrouted:  
For first 35 days after delivery on pier. . . . . Free

#### **ITEM 22.—FUEL AND DIESEL OILS.** (Effective October 1, 1921.)

1. Fuel oil, per barrel of 42 gallons, delivered to vessels at either Cristobal or Balboa. . . . . \$1.70
2. Diesel oil, per barrel of 42 gallons, delivered to vessels at Cristobal<sup>1</sup>. . . . . 3.50

M. L. WALKER,  
*Acting Governor, The Panama Canal.*  
*Second Vice President, Panama Railroad Company.*

<sup>1</sup> NOTE.—The supplements above are published as signed and in the order of their issuance. It will be noted that the price of Diesel oil as established by Supplement No. 3, dated October 1, supersedes that under Supplement No. 2 of September 20.

## Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended September 30:

Steamships *West Isleta*, dismantle broken parts on main engine; manufacture new bracket; rebore H. P. cylinder; manufacture new H. P. plug type bull ring; line up crosshead and guide; repair L. P. eccentric strap; manufacture new key for eccentric cam; *Rakuyo Maru*, manufacture 1 plunger rod for sanitary pump for port gear shaft; launch *Aloha*, turn piston rod to  $\frac{3}{8}$ " diameter and manufacture 1 follower ring to fit retrued piston; steamships *Cape Ortegál*, manufacture new H. P. cylinder head, 1 follower ring, and 30 studs; *Westward Ho*, repairs to telemotor.

## PREVIOUSLY REPORTED.

Tug *Gatun*, dock, stage, clean, and paint; fair dent in hull; calk leaky rivets and weld butt strap; perform miscellaneous light repairs; U. S. submarines *O-11*, dock, stage, clean, and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; *O-13*, dock, stage, clean, and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; *O-14*, dock, stage, clean, and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; *O-15*, dock, stage, clean, and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; steamship *Panama*, reboiling and general overhaul to machinery and hull; cruiser *Libia*, additional miscellaneous light repairs to water system, drainage system, and ladders; steamship *Donald McKay*, repairs to main feed pump; repair inboard and port fan engine; rebrick boilers; launch *Pacific*, general repairs to hull; steamship *Chifuku Maru*, repairs to main engine; barges *No. 101*, dock, stage, clean, scale, and paint; *No. 146*, dock, stage, clean, scale, and paint; *No. 195*, dock, stage, clean, scale, and paint.

The following vessels were at the Cristobal shops for repairs during the week ended October 3:

Steamships *Allianca*, rebuild bridge walls, forward port boiler, and fit dead plate port and starboard boiler aft; repair safety valve on after starboard boiler; *Caribbean*, repair sanitary and fresh water pipe in boiler rooms; make 8 valve studs for bilge pump and 24 bolts as sample; bark *Golden Gate*, dock and undock; repair steering gear and rudder; steamship *Heredia*, repair crosshead for C. O. 2<sup>nd</sup> machine and make new wrist pin for same; manufacture box wrench and get out plate for ventilator; barge *No. 21*, dock and undock; clean and paint hull; patch hull; burn off rudder bearing flush with stem; launch *Gargoyle*, install new controls, etc.; U. S. S. *Quincy*, manufacture and install new liner in ammonia compressor; steamships *General G. W. Goethals*, renew gaskets in 2 water-tight doors No. 2 hold and free dogs; renew casings on pipes and No. 2 hold; *Balboa*, *Hoosier State*, *Manavi*, *Salvador*, *St. Louis*, *Parismina*, tug *Tavernilla*, motor schooner *Laura C. Hall*, launches *Gold Star* and *Eunice*, minor repairs.

## PREVIOUSLY REPORTED.

Tug *Engineer*, make foundation plate, etc.; U. S. S. *287*, dock and undock; clean and paint bottom; overhaul sea valves, etc.; U. S. S. *P. 1841*, dock and undock; fit up for towing to the United States; steamship *Toedjoe*, install bulwarks; alter crew accommodations; U. S. S. *Patuxent*, repair 8-K. W. reciprocating dynamo.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending October 1, 1921.

| Name of vessel.    | Line or charterer.                 | Arrived.      | Departed.     | Cargo—     |        |
|--------------------|------------------------------------|---------------|---------------|------------|--------|
|                    |                                    |               |               | Discharged | Laded. |
|                    |                                    |               |               | Tons.      | Tons.  |
| Rakuyo Maru.....   | Toyo Kisen Kaisha.....             | September 24. | September 26. | 15         | .....  |
| Laura C. Hall..... | Pacific Metals Transp. Co., Ltd. . | September 25. | September 26. | 3          | .....  |
| Venezuela.....     | Pacific Mail Steamship Co. ....    | September 25. | September 26. | 9          | 2      |
| Spectator.....     | T. and J. Harrison.....            | September 27. | September 28. | .....      | 32     |
| Salvador.....      | Pacific Steam Navigation Co. ....  | September 28. | September 28. | .....      | 1      |
| Jamaica.....       | Pacific Steam Navigation Co. ....  | September 28. | September 28. | .....      | 37     |
| Manavi.....        | Pacific Steam Navigation Co. ....  | September 30. | September 30. | 1          | .....  |
| Barima.....        | Pacific Steam Navigation Co. ....  | September 30. | September 30. | 1          | .....  |







|  |  | 6 Supply ship. |  |  |  |  |  |  |  |  |  | 7 Dredge. |  | 8 Launch. |  |  |  |
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# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending October 1, 1921.

| Name of vessel.          | Line or charterer.                  | Arrived.      | Departed.     | Cargo—     |        |
|--------------------------|-------------------------------------|---------------|---------------|------------|--------|
|                          |                                     |               |               | Discharged | Laded. |
|                          |                                     |               |               | Tons.      | Tons.  |
| Acajutla.....            | Pacific Steam Navigation Co.....    | .....         | September 28. | .....      | 479    |
| Mantaro.....             | Peruvian Steamship Line.....        | .....         | September 27. | .....      | .....  |
| Adna.....                | Anglo-Saxon Petroleum Co.....       | .....         | September 24. | .....      | .....  |
| Bologna.....             | Italian Steamship Co.....           | .....         | September 27. | .....      | .....  |
| Solana.....              | Pacific Mail Steamship Co.....      | .....         | September 25. | .....      | .....  |
| Venezuela.....           | Pacific Mail Steamship Co.....      | September 25. | September 26. | 139        | 407    |
| Abangarez.....           | United Fruit Co.....                | September 25. | September 25. | 1          | 1      |
| Parismina.....           | United Fruit Co.....                | September 26. | September 29. | 813        | 37     |
| Bolivia.....             | Orient Limited Steamship Co.....    | September 26. | September 27. | 481        | .....  |
| Jamaica.....             | Pacific Steam Navigation Co.....    | September 26. | September 28. | 70         | 43     |
| Parana.....              | Pacific Steam Navigation Co.....    | September 26. | September 26. | .....      | 540    |
| Laura C. Hall.....       | Pacific Metals Corporation.....     | September 26. | September 28. | 67         | .....  |
| Spectator.....           | Leyland Line.....                   | September 26. | September 27. | 350        | .....  |
| Varg.....                | P. Johannessen.....                 | September 27. | September 28. | 119½       | .....  |
| Saint Louis.....         | French Line.....                    | September 27. | September 28. | 42         | .....  |
| Pastores.....            | United Fruit Co.....                | September 27. | September 28. | 288        | 153    |
| Abangarez.....           | United Fruit Co.....                | September 28. | September 28. | .....      | 15     |
| Gen. G. W. Goethals..... | Panama Railroad Steamship Line..... | September 28. | .....         | 977        | .....  |
| Quincy.....              | United States Government.....       | September 28. | September 30. | 116        | .....  |
| Jan Van Nassau.....      | Royal Netherlands W. I. Mail.....   | September 28. | September 29. | 202        | .....  |
| Puerto Rico.....         | French Line.....                    | September 28. | September 30. | 28         | 12     |
| San Blas.....            | United Fruit Co.....                | September 28. | September 28. | 8          | 2      |
| Caribbean.....           | Panama Railroad Steamship Line..... | September 29. | .....         | 800        | .....  |
| Manavi.....              | Pacific Steam Navigation Co.....    | September 30. | .....         | 760        | .....  |
| Barima.....              | Pacific Steam Navigation Co.....    | September 30. | .....         | 183        | .....  |
| Canada.....              | Johnson Line.....                   | October 1.    | .....         | 37         | .....  |
| Albanca.....             | Panama Railroad Steamship Line..... | October 1.    | .....         | 565        | .....  |

## Notice to Mariners.—Obstructions to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., September 22, 1921.

CIRCULAR No. 643-93:

The master of the steamship *West Camak* reports by radio having passed at 2.20 p. m., on September 20, while in latitude 11° 13' North, longitude 77° 29' West, an upright spar about 2 feet in diameter, extending 2 feet above the water. He also reports having passed at 2.30 p. m., a piece of wreckage appearing to be part of a keel, about 40 feet long. Both dangerous to navigation.

M. L. WALKER,  
Acting Governor.

## Notice to Mariners.—Establishment of Zamba Point Light, Colombia.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., September 28, 1921.

CIRCULAR No. 643-94:

The Port Captain, Cristobal, has received the following notice, dated September 26, 1921, from Master Ellis Roberts, of the Royal Mail steamship *Jamaica*:

"I have the pleasure to inform you that a flashing light on Zamba Point, latitude 10° 48' North, longitude 75° 20' West, is now in working order. I observed the light at an approximate distance of 12 miles.

Character of light: Flashing white, every 3 seconds."

M. L. WALKER,  
Acting Governor.

## Dutch Shipping and the Panama Canal.

There are two Dutch lines operating through the Panama Canal, the Royal Netherlands West India Mail, which maintains a service between Hamburg, Amsterdam, Rotterdam and the west coast of South America, and the Holland-American Line between Rotterdam,

\* This is the ninth of a series of articles on trade through the Panama Canal under different national flags. Those previously published concerned American, British, Japanese, Norwegian, Danish, Swedish, Chilean, and Peruvian shipping.

London and the west coast of North America. The former company put 30 vessels through the Canal during the fiscal year 1921, and the latter 16, out of a total of 50 vessels under the Dutch flag.

The table shows the number of vessels in either direction during the past 7 years:

| Fiscal year. | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total. |
|--------------|----------------------------|----------------------------|--------|
| 1915.....    | 5                          | 2                          | 7      |
| 1916.....    | 11                         | 4                          | 15     |
| 1917.....    | 36                         | 38                         | 74     |
| 1918.....    | 31                         | 18                         | 49     |
| 1919.....    | 6                          | 13                         | 19     |
| 1920.....    | 17                         | 12                         | 29     |
| 1921.....    | 26                         | 24                         | 50     |
| Totals.....  | 132                        | 111                        | 243    |

Of the 26 vessels passing from Atlantic to Pacific during the past year, 16 were bound from Europe to South America with 36,127 tons of cargo, and 10 from Europe to North America. Two of the latter were in ballast, and the remaining 8 carried 9,979 tons of cargo.

Of the 24 vessels passing from Pacific to Atlantic, 13 were bound from South America to Europe with 80,398 tons of cargo, 10 from North America to Europe with 86,284 tons, and 1 from South America to the United States with 3,700 tons. The total cargo from Atlantic to Pacific was 46,106 tons, and in the opposite direction 170,382 tons.

The Holland-American Line is offering refrigerated space for the shipment of apples and other fruits from the Pacific coast to the United Kingdom and Europe. Fresh meats and tallow are being shipped in cold storage over this line.

#### French Shipping and the Panama Canal.\*

The volume of French shipping through the Panama Canal has been subject to extreme fluctuations due to war and post-war conditions. The record of the 7 fiscal years from 1915 to 1921 is shown in the following table:

| Fiscal year. | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total. |
|--------------|----------------------------|----------------------------|--------|
| 1915.....    | 2                          | 1                          | 3      |
| 1916.....    | 1                          | 1                          | 1      |
| 1917.....    | 4                          | 5                          | 9      |
| 1918.....    | 19                         | 33                         | 52     |
| 1919.....    | 29                         | 75                         | 104    |
| 1920.....    | 9                          | 51                         | 60     |
| 1921.....    | 26                         | 18                         | 44     |
| Totals.....  | 89                         | 184                        | 273    |

The only French line with regular sailings through the Canal in 1921 was the Compagnie Generale Transatlantique, which maintains a service between Havre, Antwerp, Hamburg, Bordeaux and ports on the west coast of South America. It put through 10 southbound and 9 northbound vessels. Other French shipping companies which contributed to the traffic were: Societe Generale d'Armement with 7 transits, Compagnie Francaise d'Armement d'Importation de Nitrate

\* This is the tenth of a series of articles on trade through the Panama Canal under different national flags. Those previously published concerned American, British, Japanese, Norwegian, Danish, Swedish, Chilean, Peruvian, and Dutch shipping.



de Soude with 5, Societe Generale de Transports Maritimes a Vapeur with 4, French Government with 4, and Societe Anonyme de Peche with 1.

During 1921 there were 10 vessels from Europe to South America with 10,193 tons of cargo, 2 from the United States to South America with 11,904 tons, 7 sailing ships in ballast and 3 steamers carrying 6,485 tons of cargo from Europe to North America, and 2 tankers with 5,571 tons of oil from the east coast to the west coast of Mexico. There were 13 vessels from South America to Europe with 82,394 tons, 1 from South America to the United States with 6,120 tons, 2 from North America to Europe with 10,169 tons, and 2 tankers returning in ballast from the west to the east coast of Mexico.

The total cargo from Atlantic to Pacific was 34,153 tons, and in the opposite direction 98,683 tons.

### Spanish Shipping and the Panama Canal.<sup>1</sup>

No vessel under the Spanish flag passed through the Panama Canal in 1915 and 1916. The number of vessels recorded in 1917 and subsequent years is shown in the table:

| Fiscal year. | Atlantic to Pacific. | Pacific to Atlantic. | Total. |
|--------------|----------------------|----------------------|--------|
| 1917.....    | 10                   | 10                   | 20     |
| 1918.....    | 5                    | 7                    | 12     |
| 1919.....    | 2                    | 3                    | 5      |
| 1920.....    | 20                   | 21                   | 41     |
| 1921.....    | 22                   | 22                   | 44     |
| Totals.....  | 59                   | 63                   | 122    |

There is no Spanish line with regular sailings operating through the Canal. Of the 22 vessels southbound during the fiscal year 1921, 1 was a battleship and the remaining 21 tramp steamers from European and North American ports to Chile. Seven of them carried coal cargoes (32,156 tons) from the United States, and 14 were in ballast. The 22 vessels northbound all carried nitrate (110,920 tons) from Chile to the United States or Europe. The last of them went through in February.

### Italian Shipping and the Panama Canal.<sup>2</sup>

Very few Italian vessels used the Canal prior to the fiscal year 1920, as the following table shows:

| Fiscal year. | Atlantic to Pacific. | Pacific to Atlantic. | Total. |
|--------------|----------------------|----------------------|--------|
| 1915.....    | 1                    | 1                    | 2      |
| 1916.....    | 1                    |                      | 1      |
| 1917.....    | 1                    | 1                    | 2      |
| 1918.....    | 2                    | 2                    | 4      |
| 1919.....    |                      |                      |        |
| 1920.....    | 13                   | 13                   | 26     |
| 1921.....    | 13                   | 12                   | 25     |
| Totals.....  | 31                   | 29                   | 60     |

<sup>1</sup> This is the eleventh of a series of articles on trade through the Panama Canal under different national flags. Those previously published concerned American, British, Japanese, Norwegian, Danish, Swedish, Chilean, Peruvian, Dutch, and French shipping.

<sup>2</sup> This is the twelfth of a series of articles on trade through the Panama Canal under different national flags. Those previously published concerned American, British, Japanese, Norwegian, Danish, Swedish, Chilean, Peruvian, Dutch, French, and Spanish shipping.



In the fiscal year 1921 all of the Italian vessels passing through the Canal belonged to two lines maintaining regular services between Genoa and Valparaiso, calling at numerous wayports in the Mediterranean, the Caribbean and on the west coast of South America. These were the Navigazione Italiana a Vapore, (La Veloce), and the Societa Nazionale di Navigazione. The former had 5 steamers southbound and 5 northbound, and the latter 8 southbound and 7 northbound. The total southbound cargo carried through the Canal by these two lines was 14,925 tons, and the total northbound cargo, 33,063 tons.

### Coal Bunkering Quotations.

Wilson, Sons & Co., Ltd., Salisbury House, London, have furnished the following list of current prices of bunker coal, as of August 30. All prices quoted are subject to confirmation:

|                                                                              |                                                                                             |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Dover, Durham unscreened, 50/ f. o. b. in dock.                              | Buenos Aires, Welsh or other available, 70/ f. o. b. from September 1.                      |
| Dartmouth, Dominion or North Country, 50/ f. o. b.                           | Rosario, Welsh or other available, 72/6 f. o. b. from September 1.                          |
| Portland, Dominion, Welsh, or North Country, 50/ f. o. b.                    | Bahia Blanca, Welsh or other available, 74/ f. o. b. from September 1.                      |
| Plymouth, Welsh or North Country, 75/ f. o. b.                               | Gibraltar, Welsh or other available, 50/ f. o. b.                                           |
| Lisbon, Pocahontas, Welsh, or North Country, 57/6 f. o. b.                   | Malta, Welsh or other available, 60/ f. o. b.                                               |
| Madeira, Welsh or other available, 60/ f. a. s. (57/6 from September 5).     | Oran, Welsh or other available, 50/ f. o. b.                                                |
| Las Palmas, Welsh or other available, 60/ f. a. s. (57/6 from September 5).  | Algiers, Welsh or other available, 50/ f. o. b.                                             |
| Teneriffe, Welsh or other available, 60/ f. a. s. (57/6 from September 5).   | Constantinople, Welsh or Turkish, 75/ f. o. b.; American, 77/6 f. o. b.                     |
| St. Vincent, Welsh or other available, 62/6 f. a. s. (60/ from September 5). | Alexandria, Welsh or other available. On application.                                       |
| Dakar, Welsh or other available, 62/6 f. o. b. (60/ from September 5).       | Port Said, Welsh or other available, 62/6 f. o. b. from September 1.                        |
| St. Michaels and Fayal, Azores, Welsh or other available, 75/ trimmed.       | San Juan, Porto Rico, Pocahontas and/or New River, \$14.25 trimmed.                         |
| Pernambuco, Welsh or other available, 82/6 f. o. b. from September 1.        | Bermuda, Pocahontas and/or New River, 75/ trimmed.                                          |
| Bahia, Welsh or other available, 82/6 f. o. b. from September 1.             | Norfolk, Pocahontas and/or New River, about \$6.15 at chutes.                               |
| Rio de Janeiro, Welsh or other available, 75/ f. o. b. from September 1.     | Newport News, Pocahontas and/or New River, about \$6.15 at chutes.                          |
| Santos, Welsh or other available, 77/6 f. o. b. from September 1.            | Pensacola and Mobile; Black Creek, Cahaba, or Pratt prepared, \$5.25 f. o. b. under tipple. |
| Montevideo, Welsh or other available, 70/ f. o. b. from September 1.         | Hamburg, Saar, screened and unscreened, 57/ f. o. b.                                        |
| La Plata, Welsh or other available, 70/ f. o. b. from September 1.           | Vigo, Corunna, Bilbao, Huelva, Welsh, 60/ f. o. b.                                          |
|                                                                              | Barcelona, Welsh, 65/ f. o. b.                                                              |

### The Radio System on the Isthmus.

The system of radio communication operated by the Navy Department on the Isthmus contains 7 stations. The only other commercial station on the Isthmus is that of the United Fruit Company at Almirante, which has been specifically licensed to operate. The laws of Panama and the Canal Zone restrict radio operations to the control of the United States.

The Navy stations consist of the high-power station at Darien; the stations at Balboa and Colon, at the two ends of the Canal; a station at Coco Solo, primarily for naval use in local operations; and 3 outlying stations—at Punta Mala, on the western side of the entrance to the Gulf of Panama; at La Palma, diagonally opposite, on the Bay of San Miguel; and at Puerto Obaldia, on the Atlantic coast, about 2 miles from the border of Colombia.

In present practice the Darien and Balboa stations are operated together, practically as one station. Messages are received at Balboa, but not at Darien; and all sending from Balboa is done through the

Darien station. Outgoing messages are telegraphed from Balboa by land wire to Darien, where the electric impulses, operating through solenoid devices, actuate the transmitting mechanism. The three 600-foot towers at Darien carry 3 sets of antennæ. One set is for the "big arc" transmission to Arlington station, near Washington, to San Diego, and for other long-distance service; the other sets are "spark" antennæ, for local use and messages to ships as close as 1,000 miles.

San Diego is about 3,000 miles, by air, from Darien, and this distance may be accepted as Darien's regular and reliable sending range. Instances have been recorded, however, of the station's having been heard at a station in Australia, over 7,000 miles away, and by a ship at sea passing from Colombo to Aden, practically on the opposite side of the world and approximately 12,000 miles away (the steamship *M. S. Dollar*, January 21, 1921). The station has heard messages sent out from Nauen, near Berlin, San Francisco, Honolulu, and other remote points; but the range from which messages may be received is a function of the other station's transmitting power rather than of the capacity of the receiving station.

The stations at Balboa and Colon handle most of the communication with ships. The Balboa station works primarily with ships on the Pacific side, receiving their messages on the Balboa antenna and transmitting communications to them through Darien. As a rule, communication with vessels outside the Gulf of Panama is handled through the Punta Mala station; communication between the Cape Mala and Balboa stations is by either land telegraph or radio.

The Colon station works with ships on the Atlantic side, and normally communicates with them direct throughout the Caribbean area.

The Balboa station handles about 12,000 words of commercial traffic per month, Colon about 11,000, and Punta Mala about 3,500. The messages average about 15 words each. No commercial traffic is handled by the Navy radio stations between the Isthmus and points in the United States. Such business is handled by the cable lines, with the exception of company's business handled by the United Fruit Company's station at Almirante.

The bulk of the commercial business through the Navy stations is messages between steamship agents and vessels, or between the vessels and the Port Captains, with some personal messages to or from passengers. The service is available, however, for the transmission of communications between the Isthmus and points in Panama, Colombia, Ecuador, and Venezuela, to the south, and to Costa Rica, in the opposite direction.

The outlying stations at La Palma and Puerto Obaldia afford the only means of quick communication with the sections of Panama adjacent to them, as there are no telegraph or telephone lines extending into those areas from the capital. That part of the Isthmus, roughly designated as "the Darien region," is very slightly developed. On the Punta Mala side of the Gulf the telegraph lines of the Republic of Panama reach all the principal towns.

La Palma and Punta Mala stations are about 100 miles from Balboa, and the Puerto Obaldia station is about 180 miles from Cristobal. Each is in charge of an electrician, with the necessary operators for the regular watches. A tug goes from the Canal to each station once a

month, carrying supplies and mail. In practice, operators are not allowed to serve at one of the outlying stations for more than a year at a time, because in the environment of easy service, tropical surroundings, and absence of routine discipline they usually grow slack, hence in justice to the men and to the service they are not allowed to stay too long.

The oldest of the stations in point of service is that at Colon. Authority for the erection of the original station was issued in the latter part of 1904, and the station was established the following year. New apparatus was installed in 1910. The station was opened to the handling of commercial business in January, 1913. In 1914 was begun the erection of the present station, which was completed in 1915. Improved equipment was installed, and the 280-foot vertical masts were supplanted by the present 300-foot pyramidal towers, spaced 600 feet apart.

A small station at Porto Bello was opened on December 31, 1909, and used through the construction period for the transmission of messages, by way of Colon, between Porto Bello and the administrative headquarters on the Canal Zone. The Porto Bello station was approximately 17 miles from Colon. It used a 520-foot circle aerial mounted on a 150-foot mast. The station was operated until May 13, 1914, when American operations at the place were discontinued and the station was closed.

The original Balboa station was erected at the foot of Sosa Hill, in the early part of 1913, and was opened to commercial business in June of that year. It used one 110-foot mast and the smokestack of the old electrical plant at Balboa for the support of the aerial, and had a normal sending radius of 200 miles. In 1915 it was supplanted by the present station, adjoining Fort Amador. The present station, like that at Colon, has its aerial supported on two 300-foot towers, 600 feet apart, and has a normal sending radius of 500 miles.

The Darien station is situated alongside the Canal at a point almost exactly midway between the Atlantic and the Pacific. Its erection was begun on July 9, 1914, and was completed the following May, although the handling of Government messages through the station had been begun on April 5, 1915. The Darien station is, in general, like that at Arlington, Va., a 100-kilowatt plant with a normal sending radius of 3,000 miles. The aeriels are carried on three 600-foot pyramidal towers, standing at the points of an equilateral triangle, 900 feet on the side. With its normal range the station can communicate to San Francisco, to a point 400 miles south of Valparaiso, to Buenos Aires, or to St. Vincent, about 500 miles west of the coast of Africa.

Of the outlying stations, that at Punta Mala was placed in operation in May, 1919. The La Palma station was opened in July, 1919, and that at Puerto Obaldia in January, 1920. The outlying stations carry their antennæ on two 200-foot masts, 300 feet apart, and have a normal sending radius of approximately 200 miles.







# THE PANAMA CANAL RECORD

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Volume XV. Balboa Heights, C. Z., October 12, 1921.

No. 9.

## The Increasing Fresh Fruit Shipments.

Declared shipments of fresh fruits in refrigerated or ventilated space through the Panama Canal during the 8 months of this year ending August 31, aggregated 7,132 tons. Of this quantity, 5,927 tons were shipped from the west coast of the United States, 1,193 tons from Australia and New Zealand, 10 tons from the west coast of South America and 2 tons from the west coast of Central America.

All of the fruit from Australasia and 149 tons of that from the west coast of the United States, an aggregate of 1,342 tons, went to the United Kingdom. The 2 tons from the west coast of Central America were discharged at Cristobal. The 10 tons from the west coast of South America went to the United States. The 5,927 tons from the west coast of the United States were distributed as follows: One hundred and forty-nine tons to the United Kingdom, 1,023 tons to other countries of western Europe, and 4,745 tons to the east coast of the United States.

In the fresh fruit trade the unit is boxes rather than tons. Counting 30 boxes to the long ton, the shipments through the Canal in the period aggregated 213,960 boxes, and those from the west coast of the United States, 177,810 boxes.

That this quantity will be doubled by the end of the year is indicated by a statement in the *Shipping Register*, of San Francisco, to the effect that 6 steamships of the Royal Mail and the Holland-American Line's joint service will load more than 300,000 boxes of apples in Seattle for England and continental Europe between October 15 and December 15. The *Cardiganshire*, it is reported, is due to take 40,000 boxes and the *Moliere* 80,000 this month, the *Nebraska*, *Kinderdyk*, and *Eemdyk* a total of 160,000 boxes in November, and the *Moerdyk* 40,000 boxes in December. This is in the apple trade from Seattle alone, and in addition to shipments of fresh fruits from other ports.

## Canal Revenues and Expenses of Operation and Maintenance.

The fiscal year ending June 30, 1921, was the fourth consecutive year in which the Canal has earned an excess of revenues over the expenses of operation and maintenance; and the excess in the past year was sufficient to wipe out the last of the deficit in the account which had resulted from the slides in Gaillard Cut in the earlier years of Canal operation. For the year the excess of revenues over cost of operation and maintenance was \$2,711,918.56; and for the entire period of Canal operation it was approximately \$420,000. (Four hundred eighty thousand seven hundred twenty-four dollars and ninety-five cents less approximately \$60,967.60 due to the steamship operators as refunds.)

During the fiscal year ending June 30, 1921, the ordinary expenses for the operation and maintenance of the Canal, including those of civil government and sanitation, amounted to \$9,328,300.14, compared

with \$6,548,272.43 in 1920, \$6,112,194.77 in 1919, \$5,920,342.94 in 1918, and \$6,788,047.60 for the year 1917. Out of a total of \$5,745,-053.91 included in the overhead expense accounts, the sum of \$4,711,-046.99 was the proportion added to what are considered the direct expenses of operation and maintenance (viz., the expense of passing vessels through the Canal, including the operation of locks and the maintenance of the channel), to obtain the total expenses of operation and maintenance of the Canal. The overhead account includes the expenses of civil government, hospitals, quarantine, and sanitation, the Executive Department, the Accounting Department, the Washington Office, clubhouses, operation and repairs of storehouses and quarters, lighting of streets, operation of water and sewer systems, and roads, etc.

The increase of \$2,780,027.71 in the cost of operation and maintenance for the year 1921 over the preceding year resulted from a number of causes, all culminating during the fiscal year. Wages reached their highest point during the year, and all material used was that purchased at the top of the market. Considerable necessary repair work was done on equipment, which had been previously postponed on account of the congestion caused by commercial work. Also, the reduction in forces and the reorganization necessary on account of the great reduction in commercial work, due to the general depression, etc., could not be brought about simultaneously with the reduction in work, nor in any case could it be followed by an entirely corresponding reduction in expenses.

Revenues for the year exceeded those of the preceding year by \$3,-104,245.13, due principally to an increase in traffic and to an increase of \$324,525.07 in the profits on business operations, such as sales of fuel and supplies.

The revenues for the year consisted of the tolls earned on vessels passing through the Canal, \$11,261,919.31; licenses and taxes, court fees and fines, \$188,986.19; interest on balances in banks, \$25,000; and profits on business operations \$564,211.20, a total of \$12,040,-116.70.

The revenues earned in excess of current expenses were accordingly \$2,711,816.56. The charges for operation and maintenance do not include, with minor exceptions, any allowance for depreciation of plant and equipment, nor do they include any interest charges on the capital investment.

The cost of the Canal to June 30, 1921 (\$368,543,271.95) is itemized as follows: Cost of Canal, exclusive of coal and fuel oil plants, shops, dry docks, and piers, to June 30, 1921, \$335,524,258.70; equipment, exclusive of colliers and coal barges, \$8,261,682.35; shops, dry docks, and piers, \$13,457,841.77; fuel oil plants, \$1,019,358.81; coaling plants, including colliers and barges, \$10,280,130.32; total, \$368,-543,271.95. This may be considered the capital investment as of that date, although it does not include the value of the stock of material and supplies in the storehouses; nor does it include reequipment and first mortgage loans to the Panama Railroad, \$3,247,332.11, which may be repaid or covered by exchange of revenue-producing property; cost of public works in Panama and Colon, \$2,674,453.53, which is being reimbursed, with interest; value of property transferred to other departments and the Panama Railroad with book credit only, \$3,290,252.21; nor interest on Canal bonds, and cost of constructing fortifications.

Including expenditures in previous years, the aggregate of expenditures charged to operation and maintenance of the Canal to June 30, 1921, was \$45,986,067.03. The revenues offsetting this amounted to \$46,466,791.98, less approximately \$60,967.06 yet to be refunded on account of erroneous collection of tolls. The recorded excess of revenues over the cost of operation and maintenance for the period of Canal operation to June 30, 1921, was therefore \$480,724.95 less about \$60,967.06, or approximately \$419,757.89.

The cost of operation and maintenance and the revenues earned during the period of Canal operation, with the variations in the balance in this account, are shown in this statement:

|                 | Maintenance and Operation, including proportion of overhead. | Revenues.     | Revenue in excess of expenses. | Expenses in excess of revenues. | Excess of revenues over expenses to end of year. | Excess of expenses over revenues to end of year. |
|-----------------|--------------------------------------------------------------|---------------|--------------------------------|---------------------------------|--------------------------------------------------|--------------------------------------------------|
| 1914.....       | \$166,030.91                                                 | \$14,618.68   |                                | \$151,412.23                    |                                                  | \$151,412.23                                     |
| 1915.....       | 4,123,128.09                                                 | 4,343,383.69  | \$220,255.60                   |                                 | \$68,843.37                                      |                                                  |
| 1916.....       | 6,999,750.15                                                 | 2,558,542.38  |                                | 4,441,207.77                    |                                                  | 4,519,177.92                                     |
| 1917.....       | 6,788,047.60                                                 | 5,808,398.70  |                                | 979,648.90                      |                                                  | 5,352,013.30                                     |
| 1918.....       | 5,920,342.94                                                 | 6,411,843.28  | 491,500.34                     |                                 |                                                  | 4,860,512.96                                     |
| 1919.....       | 6,112,194.77                                                 | 6,354,016.98  | 241,822.21                     |                                 |                                                  | 4,618,690.75                                     |
| 1920.....       | 6,548,272.43                                                 | 8,935,871.57  | 2,387,599.14                   |                                 |                                                  | 2,231,091.61                                     |
| 1921.....       | 9,328,300.14                                                 | 12,040,116.70 | 2,711,816.56                   |                                 | 480,724.95                                       |                                                  |
| Totals..        | 45,986,067.03                                                | 46,466,791.98 | 6,052,933.85                   | 5,572,268.90                    |                                                  |                                                  |
| Balance surplus |                                                              |               |                                |                                 | 480,724.95                                       |                                                  |

\* Tolls on barges towed through the Canal, prior to opening to commercial ships.

\* Heavy drop due to closing Canal 7 months on account of slides.

If the original Panama Canal rules of measurement and collection on the basis of cargo-carrying capacity had been used, the account would have shown on June 30, 1921, assuming the same quantity of traffic, an excess of revenues over expenses amounting to \$7,527,658.23.

The loss through not applying the Canal rules alone, but limiting the collections by the proviso that the amount collectible shall not exceed the equivalent of that obtained by multiplying the net tonnage as determined by measurement for registry in the United States by \$1.25, amounted to \$1,937,029.04 in the fiscal year 1921, in addition to which \$2,565.97 was refunded to operators for excess collections in previous years. The total loss, comprised of lessened collections, and refunds, has amounted to \$7,046,933.28 to the end of the fiscal year 1921, in which is included approximately \$60,967.06 yet to be refunded. By fiscal years the losses, counting the refunds made so far, have been:

| Fiscal year. | Difference in tolls actually collected. | Refunds made later for excess collections during year. | Total.       |
|--------------|-----------------------------------------|--------------------------------------------------------|--------------|
| 1914.....    |                                         |                                                        |              |
| 1915.....    |                                         | \$165,457.71                                           | \$165,457.71 |
| 1916.....    | \$390,714.05                            | 22,110.46                                              | 412,824.51   |
| 1917.....    | 1,034,001.88                            | 17,382.47                                              | 1,051,384.35 |
| 1918.....    | 1,083,111.69                            | 8,701.09                                               | 1,091,812.78 |
| 1919.....    | 867,526.48                              | 1,299.39                                               | 868,825.87   |
| 1920.....    | 1,445,117.50                            | 10,948.49                                              | 1,456,065.99 |
| 1921.....    | 1,937,029.04                            | 2,565.97                                               | 1,939,595.01 |
| Totals.....  | 6,757,500.64                            | 228,465.58                                             | 6,985,966.22 |

Adding to \$6,985,966.22 the sum of \$60,967.06 due to be refunded to ships' operators, disbursement of which had not been effected to the close of the fiscal year 1921, gives \$7,046,933.28 as the aggregate loss



in Canal revenues to June 30, 1921, as the result of the change of basis from the original Canal rules.

The chart below shows graphically the relation, by fiscal years, between the expenses of maintenance and operation of the Canal, and the revenues derived; and shows also the relation of the additional revenue which would have been derived under the application of the Canal rules.

**Comparison of Expenses of Operation and Maintenance with Revenues, under present Rules of Measurement and Collection and under the Original Panama Canal Rules.**

|                                                                                       |                                     |
|---------------------------------------------------------------------------------------|-------------------------------------|
| Fiscal year                                                                           |                                     |
| 1914.                                                                                 |                                     |
| Operation and maint.                                                                  | \$166,030.91                        |
| Revenues.                                                                             | \$14,618.08                         |
| Fiscal year                                                                           |                                     |
| 1915.                                                                                 |                                     |
| Operation and maint.                                                                  | \$4,123,128.09                      |
| Rev. and P. C.                                                                        | \$4,343,383.69 plus \$165,457.71.   |
| Fiscal year                                                                           |                                     |
| 1916.                                                                                 |                                     |
| Operation and maint.                                                                  | \$6,999,750.15.                     |
| Rev. and P. C.                                                                        | \$2,558,542.38 plus \$412,854.21.   |
| Fiscal year                                                                           |                                     |
| 1917.                                                                                 |                                     |
| Operation and maint.                                                                  | \$6,788,047.60.                     |
| Rev. and P. C.                                                                        | \$5,808,398.70 plus \$1,051,384.35. |
| Fiscal year                                                                           |                                     |
| 1918.                                                                                 |                                     |
| Operation and maint.                                                                  | \$5,920,342.94.                     |
| Rev. and P. C.                                                                        | \$6,411,843.28 plus \$1,091,812.78. |
| Fiscal year                                                                           |                                     |
| 1919.                                                                                 |                                     |
| Operation and maint.                                                                  | \$6,112,194.77.                     |
| Rev. and P. C.                                                                        | \$6,354,016.98 and \$868,825.87.    |
| Fiscal year                                                                           |                                     |
| 1920.                                                                                 |                                     |
| Operation and maint.                                                                  | \$6,548,272.43.                     |
| Rev. and P. C.                                                                        | \$8,935,871.57 and \$1,456,065.99.  |
| Fiscal year                                                                           |                                     |
| 1921.                                                                                 |                                     |
| Operation and maint.                                                                  | \$9,328,300.14.                     |
| Rev. and P. C.                                                                        | \$12,040,116.70 and \$1,939,595.01. |
| To end of fiscal year 1921.                                                           |                                     |
| Excess of revenues over operation and maintenance.                                    | \$419,757.89.                       |
| Under P. C. rules, excess of revenues over operation and maintenance would have been. | \$7,527,658.23.                     |

Expenses of operation and maintenance.

Revenues actually earned.

Additional tolls which would have been earned under application of Panama Canal rules of measurement and collection.



### Possible Transfer of Steamers to Panaman Registry.

Sota y Aznar, shipowners of Bilbao, Spain, credited in the 1921-1922 edition of Lloyd's Register with 25 ocean-going steamers aggregating 89,126 gross tons, have made overtures to the Republic of Panama for the transfer of a part or all of their fleet to Panaman registry. This is the first application of the kind on record, and no law was found to cover it, the existing legislation of the Republic being applicable to the coasting trade, which has been heretofore the only maritime trade under the Panaman flag. By an Executive Decree dated October 7, 1921, the President of the Republic ruled that the vessels of Sota y Aznar might be admitted to registry, and that they will be subject to an annual tax of 10 cents per net registered ton. A registration fee of \$1 per net ton will also be collected.

### Visit of Japanese Training Squadron.

The cruisers *Izumo* and *Yakumo*, comprising the 'midshipmen's training squadron of the Imperial Japanese Navy, arrived at Balboa on October 9 from San Diego. Vice-Admiral Saito is in command. An extensive program of entertainment and of showing the Canal and its terminal adjuncts has been arranged. The squadron is due to make the transit of the Canal on October 15, after which it will clear for New York, in the course of a voyage around the world.

### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended October 8:

Steamship *Argyll*, remove H. P. and I. P. eccentric straps; remove caps from main bearings; remove coupling bolts from main shaft; disconnect intermediate connecting rod; file faces of couplings; manufacture 1 taper reamer and 8 taper coupling bolts; remetal bearing cap; reassemble; supply boat No. 2, install new clutch.

#### PREVIOUSLY REPORTED.

Tug *Gatun*, dock, stage, clean, and paint; perform miscellaneous repairs; U. S. submarines O-11, O-13, and O-14, dock, stage, clean, and paint; perform heavy underwater C. and R. repairs and light engineering department repairs; launch *Pacific*, general repairs to hull; steamship *Panama*, reboiling and general overhaul to machinery and hull; barges Nos. 101, 146, and 195, dock, stage, clean, scale, and paint; steamships *Chifuku Maru*, repairs to main engine; *Cape Ortegai*, manufacture new H. P. cylinder head, 1 follower ring, and 30 studs.

The following vessels were at the Cristobal shops for repairs during the week ended October 10:

Steamship *General O. H. Ernst*, repair anchor windlass; repair door to bake oven; manufacture 1 belt shifter; braze steam line from throttle to by-pass valves; U. S. S. *Sciota*, repair anchor windlass as necessary; tug *La Boca*, dock and undock, clean and paint below water line; renew air pump plunger rod; renew lignum-vitæ in propeller shaft stern bushing and repack stern gland; grind-in boiler valves as designated by engineer; renew broken staybolts in boiler; overhaul all sea valves; dredge *Marmot*, dock and undock; clean and paint hull; scale where necessary; steamships *General W. C. Gorgas*, make repairs to Weir pump; make 2 iron hooks for gangway rest; make 12 file scrapers; cut off 5 inches in 1 iron strongback No. 3 hatch; *Cristobal*, furnish 6 boiler scalers; install internal feed flanges in starboard boilers; furnish 1 cast-iron ring pot; furnish 3 auxiliary stop valve disks, one finished and two unfinished; repair suction to starboard No. 4 tank; repair anchor windlass engine; launches *Doris*, *Mary B*, and *Activo*, steamships *Barima*, *Ucayali*, *Palena*, *Stuyvesant*, *Lake Hector*, *Tamar*, *Quilpue*, *Reading*, and *Astronomer*, minor repairs.

#### PREVIOUSLY REPORTED.

Bark *Golden Gate*, repair steering gear and rudderpost; steamships *Caribbean*, miscellaneous minor repairs; *Allianca*, miscellaneous engine department repairs; *General G. W. Goethals*, miscellaneous engine and deck department repairs, U. S. S. P. 1841, dock and undock; fit up for towing to the United States.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, October 8, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                           | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line.                         | Length. | Salt water draft. |       | From—        | For—            | Cargo.              |        | Panama Canal tonnage. |
|---------------------------------|------------------|-------|----------------|-------|--------------------|-------|--------------|-------------------------------|---------|-------------------|-------|--------------|-----------------|---------------------|--------|-----------------------|
|                                 | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |                               |         | Beam.             | Tons. |              |                 | Nature.             | Tons.  |                       |
| Buenos Aires <sup>1</sup> .     | 1                | 14 14 | 2              | 6 28  | 2                  | 15 16 | Swedish      | Johnson Steamship Line.       | 440.0   | 56.0              | 16.0  | Gothenburg.  | San Francisco.  | Ballast.            | .....  | 7,501                 |
| Canada <sup>2</sup> .           | 1                | 14 42 | 2              | 7 10  | 2                  | 22 00 | Swedish      | Johnson Steamship Line.       | 440.0   | 56.0              | 14.6  | Gothenburg.  | Vancouver.      | Steel, etc.         | 1,006  | 5,661                 |
| Canadian Pioneer <sup>3</sup> . | 1                | 16 40 | 2              | 8 45  | 2                  | 17 30 | British.     | Canadian Government.          | 400.0   | 52.0              | 25.0  | New York.    | Auckland.       | Oil and general.    | 6,036  | 5,456                 |
| Robin Goodfellow <sup>4</sup> . | 2                | 12 08 | 2              | 9 13  | 2                  | 17 06 | American.    | The Sea Shipping Co.          | 425.0   | 55.0              | 21.2  | New York.    | Vancouver.      | General.            | 8,268  | 5,877                 |
| Toba Maru.                      | 2                | 5 20  | 2              | 10 20 | 2                  | 18 10 | Japanese.    | Nippon Yusen Kaisha.          | 443.0   | 58.0              | 21.7  | New York.    | Shanghai.       | Steel, cotton, etc. | 7,473  | 4,070                 |
| Roan Maru.                      | 2                | 8 57  | 2              | 11 00 | 2                  | 19 33 | Japanese.    | Kokusa Kaishiki Kaisha.       | 400.0   | 53.0              | 25.2  | Galveston.   | Yokohama.       | General.            | 6,360  | 5,624                 |
| Sarpfos.                        | 2                | 20 05 | 3              | 11 00 | 3                  | 17 35 | Norwegian.   | Thor Thoresen Line.           | 255.0   | 39.0              | 11.6  | New York.    | Guayaquil.      | General.            | 6,303  | 5,743                 |
| Patuxent <sup>5</sup> .         | 4                | 6 35  | 4              | 6 35  | 4                  | 13 45 | American.    | United States Navy.           | 470.0   | 56.0              | 28.6  | Cristobal.   | Balboa.         | General.            | 23     | 5,914                 |
| Kiyo Maru.                      | 4                | 4 05  | 4              | 8 48  | 4                  | 17 18 | Japanese.    | Toyo Kisen Kaisha.            | 470.0   | 56.0              | 28.6  | Tampico.     | Yokohama.       | Oil.                | 2,064  | 1,479                 |
| Baron Incheape.                 | 4                | 7 55  | 4              | 8 15  | 4                  | 14 45 | British.     | H. Hogarth & Sons.            | 426.0   | 56.0              | 16.0  | Newport.     | Ocean Island.   | Ballast.            | 8,940  | 9,146                 |
| Balboa.                         | 2                | 15 25 | 4              | 10 25 | 4                  | 17 45 | American.    | Colombian Maritime Co.        | 399.0   | 48.3              | 12.0  | Cristobal.   | Buenaventura.   | Ballast.            | 7,051  | 6,385                 |
| Hilversum.                      | 4                | 14 00 | 5              | 6 22  | 5                  | 14 29 | Dutch.       | Finke & Co.                   | 399.0   | 48.3              | 12.0  | Humburg.     | San Francisco.  | Ballast.            | 7,741  | 5,245                 |
| Cardiganshire.                  | 4                | 6 45  | 5              | 7 35  | 5                  | 15 30 | British.     | Royal Mail Steam Packet Co.   | 500.0   | 62.0              | 19.8  | London.      | Portland.       | Ballast.            | 4,736  | 3,450                 |
| Chicago Maru.                   | 5                | 5 42  | 5              | 8 35  | 5                  | 16 43 | Japanese.    | Osaka Shosen Kaisha.          | 410.0   | 51.0              | 23.7  | New Orleans. | Kobe.           | General.            | 11,420 | 8,385                 |
| Portsaid Maru.                  | 5                | 9 15  | 5              | 9 30  | 5                  | 16 52 | Japanese.    | Kokusa Kisen Kaishiki Kaisha. | 385.0   | 51.0              | 16.6  | Norfolk.     | Portland.       | Ballast.            | 4,327  | 3,982                 |
| Manavi.                         | 9-30             | 17 05 | 6              | 6 21  | 6                  | 13 43 | British.     | Pacific Steam Navigation Co.  | 216.0   | 35.0              | 12.2  | Cristobal.   | Guayaquil.      | General.            | 116    | 5,914                 |
| Ohian.                          | 6                | 6 54  | 6              | 7 25  | 6                  | 14 41 | American.    | American-Hawaiian Line.       | 408.0   | 54.0              | 20.6  | New York.    | Los Angeles.    | General.            | 2,092  | 1,357                 |
| Arno Mendi.                     | 6                | 11 49 | 6              | 12 30 | 6                  | 20 30 | Spanish.     | Sota & Anzar Steamship Co.    | 400.0   | 53.0              | 15.0  | Hull.        | San Francisco.  | Ballast.            | 6,044  | 4,896                 |
| Scottish Monarch.               | 6                | 18 50 | 7              | 6 20  | 7                  | 13 32 | British.     | Monarch Steamship Co., Ltd.   | 421.0   | 54.0              | 17.0  | Hull.        | Portland.       | Ballast.            | 6,321  | 4,546                 |
| Cape Town.                      | 7                | 12 10 | 7              | 12 42 | 7                  | 20 15 | Japanese.    | Kawasaki Steamship Co.        | 385.0   | 51.0              | 27.4  | Port Arthur. | Yokohama.       | Kerosene oil.       | 5,919  | 4,392                 |
| Junin.                          | 7                | 11 50 | 7              | 13 10 | 7                  | 22 16 | British.     | Pacific Steam Navigation Co.  | 392.0   | 50.0              | 21.6  | Liverpool.   | San Francisco.  | General mdse.       | 2,620  | 4,395                 |
| Algarva <sup>3</sup> .          | 9-28             | 20 50 | 8              | 6 05  | 8                  | 16 21 | American.    | United States Navy.           | 150.0   | 24.0              | 16.0  | Norfolk.     | San Francisco.  | General mdse.       | 5,316  | 4,216                 |
| Norman Monarch.                 | 7                | 15 01 | 8              | 6 25  | 8                  | 13 58 | British.     | Raeburn & Verel, Ltd.         | 401.0   | 52.0              | 17.0  | Cardiff.     | Portland.       | Ballast.            | 5,930  | 4,277                 |
| arch.                           | 8                | 6 40  | 8              | 7 25  | 8                  | 15 23 | Japanese.    | Mitsui & Co.                  | 400.0   | 53.0              | 13.0  | Barry.       | Portland, Oreg. | Ballast.            | 462    | 3,930                 |
| Uralsan Maru.                   | 4                | 14 47 | 8              | 10 06 | 8                  | 16 47 | Chilean.     | Chilean Steamship Line.       | 350.0   | 42.0              | 23.8  | Cristobal.   | Valparaiso.     | General.            | 3,666  | 2,577                 |
| Palena.                         | 8                | 5 30  | 8              | 11 10 | 8                  | 18 42 | Japanese.    | Kawasaki Kisen K. Kaisha.     | 345.0   | 48.0              | 25.3  | New Orleans. | Yokohama.       | General.            | 5,316  | 4,216                 |
| Caroline Maru.                  | 8                | 5 30  | 8              | 9 05  | 8                  | 11 50 | American.    | C. A. Blair.                  | 345.0   | 48.0              | 25.3  | Cristobal.   | Gatun.          | General.            | 5,316  | 4,216                 |
| Violette <sup>4</sup> .         | 8                | 9 00  | 8              | 9 05  | 8                  | 11 50 | American.    | C. A. Blair.                  | 345.0   | 48.0              | 25.3  | Cristobal.   | Gatun.          | General.            | 5,316  | 4,216                 |

\* Launch.

\* Launch.

\* Motor ship.

\* Launch.

|    |    |    |    |    |    |    |    |    |    |    |    |                                  |     |   |      |   |    |   |                |              |                  |   |     |     |     |     |     |  |
|----|----|----|----|----|----|----|----|----|----|----|----|----------------------------------|-----|---|------|---|----|---|----------------|--------------|------------------|---|-----|-----|-----|-----|-----|--|
| 1  | 16 | 00 | 2  | 6  | 43 | 2  | 15 | 25 | 2  | 19 | 25 | Williams, Diamond Co. (S. B.)    | 402 | 6 | 54   | 8 | 27 | 2 | San Francisco  | Glasgow      | General          | 7 | 100 | 6   | 832 | 5   | 187 |  |
| 2  | 16 | 10 | 2  | 7  | 38 | 2  | 17 | 45 | 2  | 20 | 12 | Mitsui Bussan Co.                | 385 | 0 | 51   | 0 | 20 | 0 | Portland       | Lisbon       | Wheat            | 7 | 456 | 5   | 889 | 4   | 229 |  |
| 3  | 5  | 30 | 2  | 9  | 01 | 2  | 15 | 25 | 4  | 10 | 25 | Colombian Maritime Co.           | 390 | 0 | 29   | 1 | 12 | 4 | Buenaventura   | Cristobal    | Coffee, hides    | 1 | 740 | 4   | 461 | 3   | 405 |  |
| 4  | 6  | 00 | 2  | 9  | 47 | 2  | 16 | 10 |    |    |    | Peruvian Line                    | 374 | 4 | 46   | 3 | 19 | 0 | Mollendo       | Cristobal    | General          | 1 | 474 | 4   | 466 | 2   | 340 |  |
| 5  | 10 | 00 | 2  | 11 | 32 | 2  | 18 | 40 | 2  | 22 | 20 | N. O. & S. A. S. Co. (S. B.)     | 251 | 0 | 43   | 6 | 23 | 0 | Pisagua        | Wilmington   | Nitrate          | 3 | 616 | 2   | 857 | 1   | 783 |  |
| 6  | 5  | 37 | 2  | 12 | 09 | 2  | 18 | 50 | 3  | 19 | 18 | Pacific Mail Steamship Co.       | 380 | 6 | 48   | 2 | 24 | 0 | San Francisco  | Baltimore    | General          | 3 | 114 | 5   | 926 | 4   | 178 |  |
| 7  | 4  | 00 | 3  | 8  | 41 | 3  | 15 | 35 | 3  | 22 | 00 | Grace Line, Inc.                 | 360 | 2 | 51   | 6 | 20 | 8 | Talcahuano     | New York     | General          | 2 | 438 | 5   | 694 | 3   | 975 |  |
| 8  | 23 | 00 | 3  | 8  | 47 | 3  | 16 | 35 | 3  | 17 | 33 | Kokusa Kisen Kaisha.             | 400 | 0 | 53   | 0 | 24 | 8 | Portland       | United King. | Wheat, in sacks  | 7 | 103 | 5   | 885 | 4   | 284 |  |
| 9  | 15 | 00 | 4  | 6  | 44 | 4  | 14 | 55 | 4  | 16 | 15 | Houlder Bros.                    | 385 | 0 | 52   | 0 | 23 | 0 | Nakata         | Stettin      | Phosphate        | 6 | 850 | 5   | 237 | 3   | 857 |  |
| 10 | 16 | 00 | 4  | 7  | 44 | 4  | 15 | 07 | 8  | 10 | 06 | Chilean Line                     | 350 | 0 | 42   | 1 | 21 | 6 | Valparaiso     | Cristobal    | General          | 9 | 955 | 3   | 366 | 2   | 577 |  |
| 11 | 18 | 40 | 4  | 8  | 35 | 4  | 18 | 30 | 3  | 18 | 50 | Blue Star Line.                  | 420 | 5 | 54   | 2 | 25 | 0 | Shanghai       | London       | ( <sup>1</sup> ) | 4 | 488 | 7   | 521 | 5   | 882 |  |
| 12 | 8  | 15 | 4  | 9  | 54 | 4  | 18 | 05 | 5  | 20 | 45 | Barber Lines (S. B.)             | 400 | 7 | 54   | 2 | 25 | 0 | Shanghai       | New York     | Sugar, general   | 7 | 900 | 6   | 529 | 4   | 786 |  |
| 13 | 11 | 50 | 4  | 13 | 08 | 4  | 20 | 15 | 4  | 20 | 15 | United States Steel Products Co. | 424 | 2 | 56   | 2 | 23 | 0 | Honolulu       | Boston       | ( <sup>2</sup> ) | 5 | 697 | 7   | 539 | 5   | 448 |  |
| 14 | 9  | 29 | 5  | 00 | 5  | 6  | 52 | 15 | 0  | 16 | 00 | Lyle Shipping Co.                | 405 | 0 | 52   | 4 | 24 | 0 | Portland       | New York     | Wheat            | 7 | 200 | 5   | 050 | 4   | 071 |  |
| 15 | 13 | 50 | 5  | 7  | 35 | 5  | 15 | 25 | 5  | 15 | 25 | American-Hawaiian Line.          | 407 | 7 | 53   | 7 | 28 | 0 | Kahului, H. I. | New York     | Sugar            | 8 | 098 | 7   | 091 | 5   | 002 |  |
| 16 | 5  | 30 | 5  | 8  | 41 | 5  | 16 | 15 | 5  | 20 | 22 | MacBeth, Blackwood & Laurie.     | 385 | 3 | 52   | 0 | 20 | 0 | San Francisco  | London       | Barley           | 6 | 241 | 5   | 140 | 3   | 510 |  |
| 17 | 5  | 00 | 5  | 9  | 56 | 5  | 17 | 05 | 5  | 18 | 35 | United States Government.        | 485 | 0 | 61   | 0 | 22 | 9 | San Francisco  | New York.    | Navy stores.     | 2 | 8   | 426 | 5   | 269 |     |  |
| 18 | 5  | 12 | 00 | 5  | 12 | 55 | 5  | 20 | 20 | 20 | 20 | Luckenbach Line.                 | 449 | 5 | 60   | 2 | 27 | 0 | San Francisco  | New York.    | General          | 7 | 500 | 9   | 262 | 6   | 853 |  |
| 19 | 14 | 00 | 5  | 6  | 38 | 5  | 21 | 36 | 3  | 16 | 36 | Kokusa Kisen Kaisha              | 385 | 0 | 51   | 0 | 25 | 0 | Portland       | United King. | Wheat            | 7 | 498 | 5   | 919 | 4   | 400 |  |
| 20 | 15 | 05 | 6  | 13 | 54 | 6  | 15 | 00 | 6  | 17 | 07 | Nautilus Steamship Co.           | 380 | 3 | 49   | 2 | 25 | 0 | Iquique        | Liverpool    | General          | 6 | 250 | 4   | 965 | 3   | 622 |  |
| 21 | 6  | 00 | 6  | 9  | 18 | 6  | 16 | 46 | 6  | 16 | 46 | United States Navy               | 420 | 0 | 54</ |   |    |   |                |              |                  |   |     |     |     |     |     |  |

10 Ivory nuts, cocoa, coffee, etc.

meridian.

our basis and all hours g

Hours are expressed o

PORT OF CRISTOBAL.

## PORT OF CRISTOBAL.

\*ARRIVALS.

## \*DEPARTURES.

| Date.      | Vessel.     | Line.                           | From—        | Date.      | Vessel.    | Line.                           | For—                     |
|------------|-------------|---------------------------------|--------------|------------|------------|---------------------------------|--------------------------|
| October 2. | Metapan.    | United Fruit Co.                | New Orleans. | October 2. | Metapan.   | United Fruit Co.                | Bocas del Toro.          |
| October 3. | Heredia.    | United Fruit Co.                | New Orleans. | October 2. | Caribbean. | Panama Railroad Steamship Line. | Cartagena.               |
| October 3. | Achilles.   | Panama Railroad Steamship Line. | Norfolk.     | October 5. | Alliance.  | Panama Railroad Steamship Line. | New York.                |
| October 4. | Ulua.       | United Fruit Co.                | New York.    | October 5. | Metapan.   | United Fruit Co.                | New Orleans.             |
| October 4. | Stuyvesant. | Royal Netherlands W. I. Mail.   | Amsterdam.   | October 5. | Ulua.      | United Fruit Co.                | New York via Port Limon. |

(Continued on page 144, column 2.)



# Commercial Traffic Through the Panama Canal in September, 1921, by Trade Routes.

## ATLANTIC TO PACIFIC.

| Route and registry.                                                     | No. of vessels. | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. | Tolls.       | Cargo.            |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|--------------|-------------------|
| <i>United States coastwise:</i>                                         |                 |                           |                   |                   |                 |              | <i>Long tons.</i> |
| United States.....                                                      | 25              | 111,460                   | 134,239           | 167,068           | 110,439         | \$136,340.58 | 72,620            |
| <i>From Europe to west coast of United States:</i>                      |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 9               | 32,708                    | 39,104            | 51,024            | 32,642          | 30,224.77    | 280               |
| Japanese.....                                                           | 6               | 26,702                    | 28,549            | 37,971            | 26,087          | 31,519.18    |                   |
| Greek.....                                                              | 1               | 3,317                     | 3,382             | 3,507             | 2,091           | 4,058.40     |                   |
| Danish.....                                                             | 1               | 2,660                     | 3,303             | 4,171             | 2,675           | 2,461.68     |                   |
| Swedish.....                                                            | 1               | 2,303                     | 3,969             | 3,802             | 2,839           | 2,857.68     |                   |
| Totals.....                                                             | 18              | 67,690                    | 78,307            | 100,475           | 66,334          | 71,121.71    | 280               |
| <i>From United States to Far East:</i>                                  |                 |                           |                   |                   |                 |              |                   |
| United States.....                                                      | 6               | 23,465                    | 32,270            | 36,551            | 23,286          | 29,194.05    | 47,365            |
| British.....                                                            | 5               | 19,193                    | 23,943            | 26,303            | 16,843          | 23,866.90    | 30,204            |
| Japanese.....                                                           | 4               | 15,028                    | 17,548            | 23,042            | 14,381          | 18,604.15    | 28,366            |
| Totals.....                                                             | 15              | 57,686                    | 73,761            | 85,896            | 54,510          | 71,665.10    | 105,935           |
| <i>From Cristobal, C. Z., to west coast of South America:</i>           |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 5               | 1,975                     | 2,412             | 3,519             | 2,115           | 2,468.75     | 563               |
| Peruvian.....                                                           | 3               | 4,225                     | 8,296             | 13,764            | 7,190           | 5,281.25     | 604               |
| Chilean.....                                                            | 2               | 3,608                     | 6,250             | 7,612             | 4,560           | 4,510.00     | 1,195             |
| United States.....                                                      | 2               | 672                       | 700               | 1,230             | 744             | 504.00       |                   |
| Totals.....                                                             | 12              | 10,480                    | 17,658            | 26,125            | 14,609          | 12,764.00    | 2,362             |
| <i>From Europe to west coast of South America:</i>                      |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 4               | 11,972                    | 15,610            | 20,059            | 11,962          | 14,965.00    | 7,147             |
| Italian.....                                                            | 2               | 6,071                     | 8,083             | 10,548            | 6,429           | 7,588.75     | 898               |
| Dutch.....                                                              | 2               | 3,667                     | 5,755             | 5,702             | 3,710           | 4,583.75     | 1,702             |
| French.....                                                             | 1               | 3,631                     | 4,166             | 5,818             | 3,712           | 4,538.75     | 118               |
| German.....                                                             | 1               | 1,783                     | 2,924             | 2,990             | 1,757           | 2,228.75     | 2,500             |
| Totals.....                                                             | 10              | 27,124                    | 36,538            | 45,117            | 27,570          | 33,905.00    | 12,365            |
| <i>Foreign ships in ballast between United States coastwise ports:</i>  |                 |                           |                   |                   |                 |              |                   |
| Japanese.....                                                           | 5               | 21,570                    | 23,376            | 31,204            | 21,222          | 26,424.95    |                   |
| Norwegian.....                                                          | 2               | 5,961                     | 8,341             | 9,462             | 5,888           | 7,451.25     |                   |
| British.....                                                            | 1               | 4,776                     | 5,971             | 7,569             | 4,793           | 4,299.12     |                   |
| Spanish.....                                                            | 1               | 3,031                     | 3,437             | 4,648             | 2,877           | 3,788.75     |                   |
| Totals.....                                                             | 9               | 35,338                    | 41,125            | 52,883            | 34,780          | 41,964.07    |                   |
| <i>From east coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 4               | 13,962                    | 16,939            | 20,733            | 12,404          | 14,336.50    | 4,115             |
| United States.....                                                      | 4               | 9,571                     | 12,278            | 15,848            | 9,558           | 11,963.75    | 4,270             |
| Norwegian.....                                                          | 1               | 879                       | 1,040             | 1,436             | 874             | 1,098.75     | 30                |
| Totals.....                                                             | 9               | 24,412                    | 30,257            | 38,017            | 22,836          | 27,399.00    | 8,415             |
| <i>From Europe to Australasia:</i>                                      |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 4               | 24,957                    | 30,603            | 39,913            | 25,316          | 31,196.25    | 19,686            |
| <i>From east coast of United States to Australasia:</i>                 |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 3               | 13,378                    | 14,193            | 16,339            | 10,234          | 14,744.88    | 10,400            |
| United States.....                                                      | 1               | 4,438                     | 4,462             | 5,834             | 4,418           | 5,354.40     | 6,500             |
| Totals.....                                                             | 4               | 17,816                    | 18,655            | 22,173            | 14,652          | 20,099.28    | 16,900            |
| <i>From east coast of United States to west coast of Canada:</i>        |                 |                           |                   |                   |                 |              |                   |
| Dutch.....                                                              | 1               | 4,217                     | 4,763             | 6,869             | 4,211           | 3,429.36     |                   |
| United States.....                                                      | 1               | 3,151                     | 4,225             | 4,621             | 2,866           | 3,938.75     | 1,750             |
| British.....                                                            | 1               | 2,813                     | 3,938             | 4,304             | 2,804           | 3,516.25     | 3,024             |
| Norwegian.....                                                          | 1               | 851                       | 1,138             | 1,650             | 819             | 819.36       |                   |
| Totals.....                                                             | 4               | 11,032                    | 14,064            | 17,444            | 10,700          | 11,703.72    | 4,774             |
| <i>From Europe to west coast of Canada:</i>                             |                 |                           |                   |                   |                 |              |                   |
| Dutch.....                                                              | 1               | 5,403                     | 6,612             | 8,384             | 5,437           | 6,753.75     | 1,583             |
| Danish.....                                                             | 1               | 3,368                     | 5,263             | 5,497             | 3,425           | 4,210.00     | 6,500             |
| British.....                                                            | 1               | 2,986                     | 3,211             | 4,872             | 3,021           | 3,732.50     | 4,032             |
| Totals.....                                                             | 3               | 11,757                    | 15,086            | 18,753            | 11,883          | 14,696.25    | 12,115            |
| <i>From West Indies to west coast of United States:</i>                 |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 1               | 3,143                     | 4,365             | 5,197             | 3,155           | 3,142.80     |                   |
| Spanish.....                                                            | 1               | 2,232                     | 2,792             | 3,460             | 2,021           | 2,010.24     |                   |
| Totals.....                                                             | 2               | 5,375                     | 7,157             | 8,657             | 5,176           | 5,153.04     |                   |



## ATLANTIC TO PACIFIC—Continued.

| Route and registry.                                                             | No. of<br>vessels. | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered<br>gross. | Registered<br>net. | Tolls.     | Cargo.            |
|---------------------------------------------------------------------------------|--------------------|---------------------------------|-------------------------|----------------------|--------------------|------------|-------------------|
| <i>From Cristobal, C. Z., to west coast<br/>of United States:</i>               |                    |                                 |                         |                      |                    |            | <i>Long tons.</i> |
| United States.....                                                              | 2                  | 2,986                           | 3,756                   | 4,796                | 2,963              | \$3,732.50 | 3,476             |
| <i>From Cristobal, C. Z., to west coast<br/>of Central America:</i>             |                    |                                 |                         |                      |                    |            |                   |
| British.....                                                                    | 2                  | 1,429                           | 1,624                   | 2,731                | 1,463              | 1,786.25   | 854               |
| <i>Colombian coastwise:</i>                                                     |                    |                                 |                         |                      |                    |            |                   |
| British.....                                                                    | 2                  | 1,228                           | 1,244                   | 2,276                | 1,204              | 1,492.80   | 875               |
| <i>From east coast of Mexico to Far<br/>East:</i>                               |                    |                                 |                         |                      |                    |            |                   |
| United States.....                                                              | 1                  | 6,551                           | 6,481                   | 8,366                | 6,309              | 7,777.20   | 10,000            |
| <i>From east coast of United States<br/>to Balboa, C. Z.:</i>                   |                    |                                 |                         |                      |                    |            |                   |
| United States.....                                                              | 1                  | 5,972                           | 7,008                   | 11,081               | 5,970              | 7,465.00   | 12,038            |
| <i>From east coast of Mexico to west<br/>coast of South America:</i>            |                    |                                 |                         |                      |                    |            |                   |
| British.....                                                                    | 1                  | 4,039                           | 4,408                   | 6,430                | 4,052              | 5,048.75   | 7,889             |
| <i>From east coast of Canada to Aus-<br/>tralia:</i>                            |                    |                                 |                         |                      |                    |            |                   |
| British.....                                                                    | 1                  | 3,490                           | 4,051                   | 5,384                | 3,311              | 4,362.50   | 6,280             |
| <i>From east coast of South America<br/>to west coast of United<br/>States:</i> |                    |                                 |                         |                      |                    |            |                   |
| United States.....                                                              | 1                  | 3,034                           | 4,174                   | 4,748                | 2,925              | 3,792.50   | 3,856             |
| United States.....                                                              | 2                  | 394                             | 438                     | 754                  | 393                | 328.11     |                   |
| Totals, September, 1921                                                         | 128                | 434,250                         | 530,634                 | 669,087              | 427,395            | 513,793.61 | 300,720           |
| Totals, August, 1921                                                            | 120                | 394,295                         | 487,219                 | 607,852              | 387,071            | 465,017.24 | 317,970           |
| Totals, September, 1920                                                         | 125                | 417,500                         | 504,349                 | 647,033              | 404,946            | 494,954.82 | 444,217           |

\* Yachts; no cargo.

## PACIFIC TO ATLANTIC.

|                                                                                 |    |        |         |         |        |             |                   |
|---------------------------------------------------------------------------------|----|--------|---------|---------|--------|-------------|-------------------|
| <i>From west coast of United States<br/>to Europe:</i>                          |    |        |         |         |        |             | <i>Long tons.</i> |
| United States.....                                                              | 9  | 36,187 | 45,759  | 56,386  | 36,158 | \$45,233.75 | 68,021            |
| Japanese.....                                                                   | 6  | 24,117 | 26,235  | 34,171  | 23,414 | 29,786.45   | 43,333            |
| British.....                                                                    | 6  | 19,302 | 25,529  | 30,151  | 18,670 | 24,127.50   | 42,060            |
| Norwegian.....                                                                  | 2  | 7,987  | 9,648   | 12,353  | 7,763  | 9,983.75    | 15,909            |
| Danish.....                                                                     | 1  | 4,473  | 5,588   | 7,014   | 4,470  | 5,591.25    | 9,265             |
| Totals.....                                                                     | 24 | 92,066 | 112,759 | 140,075 | 90,475 | 114,722.70  | 178,588           |
| <i>United States coastwise:</i>                                                 |    |        |         |         |        |             |                   |
| United States.....                                                              | 15 | 67,923 | 88,111  | 105,327 | 66,717 | 83,011.64   | 104,642           |
| <i>From west coast of South America<br/>to Cristobal:</i>                       |    |        |         |         |        |             |                   |
| British.....                                                                    | 6  | 2,524  | 3,296   | 4,560   | 2,730  | 3,155.00    | 3,415             |
| Peruvian.....                                                                   | 2  | 2,719  | 5,345   | 9,020   | 4,517  | 3,398.75    | 2,842             |
| United States.....                                                              | 2  | 672    | 700     | 1,230   | 744    | 840.00      | 1,182             |
| Chilean.....                                                                    | 1  | 1,797  | 3,068   | 3,814   | 2,288  | 2,246.25    | 985               |
| Totals.....                                                                     | 11 | 7,712  | 12,409  | 18,624  | 10,279 | 9,640.00    | 8,424             |
| <i>From west coast of South America<br/>to Europe:</i>                          |    |        |         |         |        |             |                   |
| British.....                                                                    | 5  | 16,833 | 20,652  | 28,233  | 17,138 | 21,041.25   | 22,170            |
| French.....                                                                     | 1  | 3,638  | 4,170   | 5,796   | 3,689  | 4,547.50    | 5,210             |
| Italian.....                                                                    | 1  | 3,149  | 3,600   | 5,355   | 3,160  | 3,936.25    | 7,460             |
| Norwegian.....                                                                  | 1  | 3,089  | 3,107   | 4,052   | 3,044  | 3,728.40    | 5,230             |
| Dutch.....                                                                      | 1  | 2,518  | 2,707   | 3,375   | 2,574  | 3,147.50    | 4,500             |
| Totals.....                                                                     | 9  | 29,227 | 34,236  | 46,811  | 29,605 | 36,400.90   | 44,570            |
| <i>From west coast of South America<br/>to east coast of United<br/>States:</i> |    |        |         |         |        |             |                   |
| United States.....                                                              | 5  | 13,993 | 17,147  | 21,945  | 14,069 | 17,491.25   | 18,276            |
| British.....                                                                    | 2  | 6,649  | 9,171   | 12,172  | 7,139  | 8,311.25    | 2,657             |
| Norwegian.....                                                                  | 1  | 879    | 1,040   | 1,436   | 874    | 1,098.75    | 1,046             |
| Totals.....                                                                     | 8  | 21,521 | 27,358  | 35,553  | 22,082 | 26,901.25   | 21,979            |
| <i>From west coast of Canada to<br/>Europe:</i>                                 |    |        |         |         |        |             |                   |
| British.....                                                                    | 3  | 11,279 | 13,849  | 18,017  | 11,162 | 14,098.75   | 22,830            |
| Dutch.....                                                                      | 1  | 4,474  | 6,911   | 7,310   | 4,495  | 5,592.50    | 8,834             |
| United States.....                                                              | 1  | 3,450  | 5,448   | 5,687   | 3,450  | 4,312.50    | 7,856             |
| Swedish.....                                                                    | 1  | 3,430  | 5,533   | 5,554   | 4,225  | 4,287.50    | 8,193             |
| Totals.....                                                                     | 6  | 22,633 | 31,741  | 36,568  | 23,332 | 28,291.25   | 47,713            |

## PACIFIC TO ATLANTIC—Continued.

| Route and registry.                                                     | No. of vessels. | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. | Tolls.      | Cargo.            |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
| <i>From Australasia to Europe:</i>                                      |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| British.....                                                            | 4               | 22,767                    | 26,084            | 33,326            | 22,367          | \$28,316.00 | 20,192            |
| <i>From Central America to Cristobal, C. Z.:</i>                        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 3               | 2,220                     | 2,542             | 4,292             | 2,272           | 2,775.00    | 650               |
| <i>From west coast of United States to east coast of Mexico:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 2               | 9,739                     | 10,506            | 13,783            | 9,517           | 7,772.19    | .....             |
| <i>From west coast of South America to east coast of Mexico:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 4,203                     | 5,041             | 6,703             | 4,203           | 3,629.52    | .....             |
| British.....                                                            | 1               | 3,916                     | 4,546             | 6,233             | 3,948           | 3,273.12    | .....             |
| Totals.....                                                             | 2               | 8,119                     | 9,587             | 12,936            | 8,151           | 6,902.64    | .....             |
| <i>From Far East to east coast of United States:</i>                    |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 2,722                     | 3,877             | 4,390             | 2,714           | 3,402.50    | 6,501             |
| Japanese.....                                                           | 1               | 3,650                     | 4,500             | 5,823             | 3,590           | 4,562.50    | 5,015             |
| Totals.....                                                             | 2               | 6,372                     | 8,377             | 10,213            | 6,304           | 7,965.00    | 11,516            |
| <i>From Balboa, C. Z., to east coast of United States:</i>              |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 5,972                     | 7,008             | 11,081            | 5,970           | 5,045.76    | .....             |
| <i>From Far East to east coast of Mexico:</i>                           |                 |                           |                   |                   |                 |             |                   |
| Japanese.....                                                           | 1               | 5,513                     | 6,385             | 9,049             | 6,502           | 4,597.20    | .....             |
| <i>From west coast of United States to east coast of South America:</i> |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 3,522                     | 4,914             | 5,652             | 3,522           | 4,402.50    | 5,530             |
| <i>From west coast of Canada to east coast of United States:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 3,505                     | 4,971             | 5,527             | 3,413           | 4,381.25    | 4,074             |
| <i>From Australasia to east coast of United States:</i>                 |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 3,415                     | 4,730             | 5,535             | 3,415           | 4,268.75    | 5,828             |
| <i>From west coast of United States to Cristobal, C. Z.:</i>            |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 1,654                     | 2,163             | 2,643             | 1,654           | 2,067.50    | 316               |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 614                       | 622               | 1,138             | 602             | 746.40      | 152               |
| Totals, September, 1921                                                 | 93              | 314,494                   | 394,503           | 498,133           | 316,179         | 378,207.93  | 454,174           |
| Totals, August, 1921...                                                 | 116             | 398,147                   | 478,057           | 611,965           | 393,874         | 490,363.54  | 521,303           |
| Totals, September, 1920                                                 | 131             | 415,242                   | 504,436           | 646,437           | 412,864         | 515,195.81  | 565,340           |

## Visit of the "Carnegie," Engaged in Magnetic Survey of Earth.

The yacht *Carnegie*, which is engaged in a magnetic survey of the earth being carried on by the Carnegie Institution of Washington, D. C., arrived at Balboa, October 7, from Apia, Samoa. She went into dry dock for renewal of her rudderpost, cleaning and painting. Upon completion of the work, about the end of this week, the *Carnegie* will transit the Canal and sail for Washington. She is in command of Capt. J. P. Ault, who is both master of the vessel and director of the scientific work.

This will be the third passage of the *Carnegie* through the Canal. She was first here in April, 1915, and again in May, 1918. The magnetic survey on which she is engaged was begun in 1904 by the *Galilee*; the *Carnegie* went into service in 1909. The present voyage of the *Carnegie* began in October, 1919, in Washington. Taking observations at intervals, the vessel proceeded across the Atlantic to Dakar, thence to Buenos Aires, St. Helena, Cape Town, across the Indian Ocean to Colombo, thence to Fremantle and Lyttelton, the Society Islands, San Francisco, Honolulu, Samoa, Rarotonga, and Balboa. The voyage covered, altogether, about 65,000 miles and was,

principally, for the purpose of filling in with observations in areas which had not been sufficiently covered before and recrossing the old lines for the purpose of determining changes in magnetic conditions.

The work of the *Carnegie*, as described in *The Canal Record* of April 14, 1915, is primarily to determine the magnetic declination of the compass at different points, the horizontal intensity and the dip of the magnetic field. The importance of keeping track of the magnetic declination and correcting charts accordingly is appreciated by mariners. A striking example of the extent to which the pointing of the compass may change is afforded by the records of declination in the city of London. In 1580 it was determined to be  $11^{\circ}$  to the east of true north and by 1812 it had changed to  $24^{\circ}$  west. The true north as determined in scientific observations is not the position of the North Star, which is usually about  $1\frac{1}{2}^{\circ}$  off from true north, but is the hypothetical position in the firmament which represents the projection of the axis running through the north and south poles of the earth.

During this latest voyage the observers on the *Carnegie* encountered an interesting demonstration of the practical economic value of determining the magnetic declination. In Colombo they were called upon to testify in a land suit which hinged on the determination of a line run by the compass. The line was surveyed some years ago and recently the owner of one of the tracts divided by the line had it resurveyed, as a result of which it appeared that the line should have run considerably to one side of the accepted boundary. The man who had caused the new survey claimed additional territory. The owner of the territory contested that what had happened was that the declination of the compass had changed since the original line was run; that the old line was correct at the time made and had been acceptable to both parties to the contract and, accordingly, should stand. The observers on the *Carnegie* were called to testify in the court as to whether the compass had suffered a change in declination. Their observations showed that it had and the court decided that the original line should stand.

In navigating on the high seas, if the course is determined by the compass and the declination appearing on the chart should be as much as  $3^{\circ}$  off, which it frequently is, this could make a difference of about 30 miles a day and in 3 or 4 days a vessel might steer 90 or 100 miles off the course. It is said that if a vessel were to steer from the north Atlantic for Falmouth by the charts of a century ago her course would bring her, without the intervention of any other means of determining the situation, to the Orkney Islands in north Scotland.

In addition to the magnetic survey for practical purposes, the staff of the *Carnegie* makes observations which are of abstract scientific value. One is the measurement of the amount of electricity in the air, another the amount of radium in the air and in the sea water. The whole study, however, is in the field of terrestrial magnetism and the great object of the surveys is to determine as much as possible about the nature of magnetism and how its effects and changes can be measured and predicted; in other words, to obtain a measure of exactness with reference to terrestrial magnetism which might be comparable with present knowledge of industrial electricity or branches of chemistry.

While on the Isthmus the observers of the *Carnegie* will take observations from their station on the west shore of Limon Bay, opposite



Colon. This station was established in 1905 and on an average of once a year ever since some observer from the Carnegie Institution has made observations at this point.

Dr. Louis A. Bauer, the Director of the Department of Terrestrial Magnetism of the institution arrived on the Isthmus on October 11, to join the *Carnegie* and will be aboard her during the remainder of her voyage.

The *Carnegie*, as reported in *The Canal Record* of April 14, 1915, is a nonmagnetic vessel, being constructed and equipped with practically no iron or steel or other magnetic substance aboard her. She is a sailing vessel, equipped with a small auxiliary engine capable of making about 4 knots in a calm. The engine and the stove in the galley are of brass, the anchors of bronze, and in the building of the hull locust spikes were used. The vessel is 155½ feet long, over all, 128 feet 4 inches in length at the load water line, 33 feet in beam. The crew consists of 23, including 6 scientists.

Since her previous visits to the Canal the *Carnegie* has been equipped with electric lights. The wiring and insulating material are of brass and other nonmagnetic material and the small generator, which is situated aft in the engine room, is always shut down while magnetic observations are being taken. The influence of the electrical equipment is nil.

In her voyage from Apia to Balboa, by way of Rarotonga, the *Carnegie* was 74 days at sea.

#### Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

#### MOVEMENTS OF OCEAN VESSELS.—Continued from page 139. PORT OF CRISTOBAL.—continued.

| *ARRIVALS. |                    |                                  |                         | *DEPARTURES.    |                      |                                |                                  |
|------------|--------------------|----------------------------------|-------------------------|-----------------|----------------------|--------------------------------|----------------------------------|
| Date.      | Vessel.            | Line.                            | From—                   | Date.           | Vessel.              | Line.                          | For—                             |
| October 5. | Metapan            | United Fruit Co.                 | Bocas del Toro.         | October 5.      | Stuyvesant           | Royal Netherlands W. I. Mail   | Port Limon.                      |
| October 5. | Santa Marta        | United Fruit Co.                 | New York via Kingston.  | October 6.      | Atchilles            | Panama Railroad Steamship Line | Norfolk.                         |
| October 6. | Sixola             | United Fruit Co.                 | New York.               | October 6.      | Horedia              | United Fruit Co.               | New Orleans via Bocas del Toro.  |
| October 6. | Columbia           | N. O. & S. A. S. Line.           | Cartagena.              | October 6.      | Santa Marta          | United Fruit Co.               | New Orleans via Colombian ports. |
| October 7. | Stuyvesant         | Royal Netherlands W. I. Mail     | Port Limon.             | October 6.      | Sixola               | United Fruit Co.               | New York via Kingston.           |
| October 7. | Owl                | United States Navy.              | Hampton Roads.          | October 6.      | Columbia             | N. O. & S. A. S. Line.         | New Orleans.                     |
| October 8. | Caribbean          | Panama Railroad Cattle Industry. | Cartagena.              | October 6.      | San Bruno            | United Fruit Co.               | Boston.                          |
| October 8. | Tamar              | Royal Mail Steam Packet Co.      | London.                 | October 8.      | Gen. G. W. Goethals. | Panama Railroad Steamship Line | New York via Haiti.              |
| October 8. | San Bruno          | United Fruit Co.                 | Boston.                 | October 8.      | Stuyvesant           | Royal Netherlands W. I. Mail   | Puerto Colombia.                 |
| October 8. | Antillian          | Leyland Line                     | Liverpool via wayports. |                 |                      |                                |                                  |
| October 8. | Gen. W. C. Gorgas. | Panama Railroad Steamship Line.  | New York via Haiti.     |                 |                      |                                |                                  |
|            |                    |                                  |                         | PORT OF BALBOA. |                      |                                |                                  |
| October 8. | Depere             | General Steamship Corp. (S. B.)  | Valparaiso.             | None            |                      |                                |                                  |

\*Other than ships passing through the Canal.



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Volume XV. Balboa Heights, C. Z., October 19, 1921. No. 10.

## Increasing Danger of Plague.—Steps to Prevent Spread.

THE PANAMA CANAL,

BALBOA HEIGHTS, C. Z., October 12, 1921.

*To Owners, Masters, and Agents of vessels arriving at Panama Canal Zone ports, and all others concerned:*

Bubonic plague is now prevalent in many of the seaports of the world. It is of the utmost importance to shipping interests that every possible measure be taken to prevent the spread of this disease to other ports and it is imperative that the Panama Canal, an international highway, continue free of plague.

To accomplish this, it is necessary to prevent the migration of rats by ships and to this end the Quarantine Regulations of The Panama Canal will be strictly enforced. Ready compliance with these regulations and hearty cooperation with the Quarantine Officers will react to the benefit of shipping interests, by the protection of the health of ships' companies and the prevention of expensive and vexatious quarantines, here and elsewhere. The regulations now in force are the minimum compatible with safety and as such must be obeyed in all particulars. Arriving vessels will observe the following regulations under penalty of being placed in quarantine and moved from the docks or fined, or both.

Metal rat guards not less than 3 feet in diameter will be applied to *all* mooring lines. They must be in good repair and must *fit* the lines *accurately*. They must *not* overhang or be nearer to the dock than 6 feet. Ships must be breasted off at least 6 feet. When exception is made to this rule on account of short cargo booms, the vessel will be immediately breasted off when not working.

Save-alls, catch-alls, hose, and all communications with the dock except gangways and properly rat-guarded lines, must be disconnected at night and when the ship is not working. Gangways must be raised at night or well lighted and guarded by a watchman.

Vessels should be fumigated frequently for the extermination of rats and other vermin aboard. All arriving vessels, except those not discharging cargo or passengers at Canal ports, which have not been satisfactorily fumigated within 3 months will be fumigated. Vessels habitually using Canal ports exclusively (tugs, dredges, barges, etc.) will be fumigated at least every 6 months.

Respectfully,

M. L. WALKER, *Acting Governor.*

## Charges for Delivery on Radio Messages to Addresses in Colon and Cristobal.

Effective November 1, in addition to the regular station rate of 6 cents per word on messages received at the Colon radio station for addresses in Colon and Cristobal, there will be a further charge of 2 cents per word for the first 10 words and 1 cent for each word thereafter, to cover delivery. The present delivery service of the station will be discontinued, and messages will be delivered through the Panama National Telegraph system; the addition to the rate covers the charges of that organization.

Outgoing radio messages may be filed at the Panama National Telegraph office, and the same extra charges will be levied on them for transmission to the radio station. Messages may be filed at the radio station itself, in which case the regular station rate of 6 cents a word will apply. Messages may also be filed at any Panama Railroad telegraph office, under a charge of 20 cents for a message of 10 words or less, plus 1 cent for each word in excess of 10.

At the Balboa station the arrangement which is to be established for the Atlantic end has been in operation for some time.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, October 15, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.            | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                          | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.           |       | Panama Canal tonnage. |       |
|------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|--------------------------------|---------|-------|-------------------|---------------|----------------|------------------|-------|-----------------------|-------|
|                  | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                |         |       |                   |               |                | Nature.          | Tons. | Gross.                | Net.  |
| Gen. O. H. Ernst | 6                | 10.45 | 9              | 6.17  | 9                  | 14.00 | 9                | 15.00 | American     | Panama Railroad Steamship Line | 356.0   | 45.0  | 17.8              | New York      | Guayaquil      | General          | 476   | 4,503                 | 2,764 |
| Solana           | 8                | 11.15 | 9              | 7.20  | 9                  | 15.21 | 9                | 17.40 | American     | Pacific Mail Steamship Co.     | 419.0   | 56.0  | 28.6              | Tampico       | La Union       | Oil              | 9,000 | 7,043                 | 5,041 |
| Mahia            | 8                | 18.03 | 9              | 9.00  | 9                  | 16.40 | 9                | 17.40 | British      | Shaw, Saville & Albion Co.     | 448.0   | 63.0  | 24.6              | Cardiff       | Auckland       | Coal             | 5,506 | 11,026                | 7,912 |
| Henry S. Grove   | 9                | 5.58  | 9              | 9.15  | 9                  | 17.00 | 9                | 18.05 | American     | Atl. Gulf & Pac. S. S. Co.     | 401.0   | 54.0  | 21.0              | Baltimore     | Los Angeles    | General          | 5,100 | 6,755                 | 4,688 |
| Raranga          | 9                | 10.33 | 9              | 11.00 | 9                  | 18.32 | 9                | 19.48 | British      | Shaw, Saville & Albion Co.     | 496.0   | 63.0  | 25.0              | London        | Auckland       | Iron rails, etc. | 3,082 | 11,070                | 7,931 |
| Mineola          | 9                | 6.00  | 9              | 12.25 | 9                  | 19.10 | 9                | 20.10 | American     | W. R. Grace & Co.              | 298.0   | 40.0  | 17.8              | New York      | Buenaventura   | General          | 1,669 | 2,835                 | 1,822 |
| Pacific Maru     | 9                | 20.13 | 10             | 6.25  | 10                 | 11.20 | 11               | 19.37 | Japanese     | Kawasaki Kisen Kaisha          | 385.0   | 51.0  | 17.0              | Norfolk       | Grace Harbor   | Ballast          | 6,231 | 4,736                 |       |
| Victoria         | 10               | 8.05  | 10             | 8.20  | 10                 | 15.17 | 10               | 16.20 | British      | Mignel de Larrinaga S. S. Co.  | 405.0   | 52.0  | 17.1              | Immingham     | San Francisco  | Ballast          | 5,956 | 4,570                 |       |
| Larrinaga        | 10               | 9.15  | 10             | 9.30  | 10                 | 17.02 | 10               | 23.59 | British      | Shaw, Saville & Albion Co.     | 477.0   | 63.0  | 27.0              | Liverpool     | Auckland       | General          | 7,835 | 11,047                | 7,822 |
| Matakana         | 10               | 16.10 | 10             | 11.00 | 10                 | 17.37 | 10               | 18.30 | Peruvian     | Peruvian Steamship Line        | 374.0   | 46.0  | 18.1              | Cristobal     | Callao         | General          | 309   | 4,466                 | 2,405 |
| Yonani Maru      | 11               | 2.08  | 11             | 7.00  | 11                 | 13.53 | 11               | 20.25 | Japanese     | Taiyo Kisen Kaisha             | 315.0   | 56.0  | 19.8              | Newcastle     | Portland       | Ballast          | 7,212 | 5,289                 |       |
| China Maru       | 11               | 3.15  | 11             | 7.40  | 11                 | 15.00 | 11               | 17.52 | Japanese     | Kawasaki Kisen Kaisha          | 385.0   | 51.0  | 14.6              | Cardiff       | Tacoma         | Ballast          | 5,924 | 4,395                 |       |
| Barina           | 6-30             | 18.25 | 11             | 12.00 | 11                 | 18.25 | 11               | 22.15 | British      | Pacific Steam Navigation Co.   | 220.0   | 37.0  | 12.0              | Cristobal     | Chumperico     | General          | 585   | 1,634                 | 871   |
| Cayuco 2220      | 10               | 11    | 9.00           | 11    | 10.00              | 12    | 17.12            | 12    | Panama       | Lawrence De Leon               | 360.0   | 52.0  | 21.0              | Cristobal     | Gatun Lake     | General          | 1,670 | 5,957                 | 4,325 |
| Santa Elisa      | 11               | 15.04 | 12             | 6.05  | 12                 | 13.56 | 13               | 18.40 | American     | W. R. Grace & Co.              | 381.0   | 55.0  | 16.0              | New York      | Buenaventura   | General          | 10    | 132                   | 72    |
| Laura C. Hall    | 10               | 16.25 | 12             | 6.10  | 12                 | 14.03 | 13               | 8.40  | British      | Pracifica Metals Corporation   | 382.0   | 52.0  | 16.0              | Newport, Eng. | Buenaventura   | Ballast          | 5,030 | 3,760                 |       |
| Polyktor         | 9                | 21.54 | 12             | 7.30  | 12                 | 15.03 | 12               | 16.30 | Greek        | Dracolis Steamship Line        | 397.0   | 53.0  | 15.0              | Portland      | Portland, Ore. | Ballast          | 5,622 | 4,238                 |       |
| Norwich City     | 11               | 19.19 | 12             | 8.55  | 12                 | 16.03 | 12               | 21.18 | British      | W. R. Smith & Sons             | 370.0   | 53.0  | 17.1              | Shields       | Portland       | Ballast          | 3,003 | 5,441                 | 4,080 |
| Selandia         | 11               | 17.05 | 12             | 10.05 | 12                 | 17.33 | 13               | 0.15  | Danish       | East Asiatic Co.               | 490.0   | 52.0  | 16.6              | Copenhagen    | Valparaiso     | Cement, general  | 5,771 | 4,047                 |       |
| Iolcos           | 12               | 7.15  | 12             | 12.19 | 12                 | 18.42 | 13               | 16.42 | Greek        | Hellenic Transport Co.         | 455.0   | 78.0  | 29.4              | Port Tabot    | N. Pac. coast  | Ballast          | 1,443 | 3,439                 | 2,206 |
| Connecticut      | 12               | 7.45  | 13             | 6.10  | 13                 | 14.43 | 15               | 11.05 | American     | United States Navy             | 308.0   | 42.0  | 20.7              | Philadelphia  | Los Angeles    | General          | 4,686 | 6,314                 | 4,642 |
| Cuba             | 12               | 14.30 | 13             | 7.52  | 13                 | 14.50 | 13               | 17.40 | American     | Pacific Mail Steamship Co.     | 410.0   | 52.0  | 24.9              | Cristobal     | San Francisco  | General          | 4,682 | 6,314                 | 4,642 |
| City of Chester  | 12               | 16.08 | 13             | 8.13  | 13                 | 15.59 | 13               | 17.15 | British      | Ellerman & Bucknell            | 433.0   | 57.0  | 25.0              | New York      | Auckland       | General          | 4,682 | 6,314                 | 4,642 |
| Julia Luckenbach | 12               | 16.59 | 13             | 8.51  | 13                 | 16.35 | 13               | 17.50 | American     | Luckenbach Line                | 433.0   | 57.0  | 25.0              | New York      | San Francisco  | General          | 4,682 | 6,314                 | 4,642 |
| Pennsylvania     | 13               | 6.40  | 13             | 9.30  | 13                 | 18.30 | 13               | 18.30 | American     | American-Hawaiian Line         | 498.0   | 54.0  | 21.0              | New York      | San Francisco  | General          | 3,027 | 7,107                 | 4,916 |
| Katharine Park   | 13               | 7.00  | 13             | 10.42 | 13                 | 18.23 | 14               | 6.36  | British      | Park Steamship Line            | 382.0   | 52.0  | 22.0              | Newport       | Portland       | Ballast          | 6,247 | 4,872                 |       |
| Henderson        | 13               | 8.22  | 13             | 11.00 | 13                 | 19.10 | 15               | 20.29 | American     | United States Navy             | 482.0   | 63.0  | 23.0              | New York      | San Diego      | General          | 645   | 7,082                 | 2,956 |
| Quillora         | 12               | 2.28  | 13             | 12.15 | 13                 | 20.06 | 13               | 22.05 | British      | Pacific Steam Navigation Co.   | 361.0   | 46.0  | 17.6              | New York      | Guayaquil      | General          | 728   | 4,768                 | 2,956 |
| Pleades          | 13               | 10.45 | 13             | 12.45 | 13                 | 20.31 | 13               | 21.35 | American     | Luckenbach Line                | 332.0   | 47.0  | 22.0              | New Orleans   | San Francisco  | General          | 3,717 | 4,147                 | 3,236 |
| Cayuco 2220      | 12               | 13    | 8.00           | 13    | 9.00               |       |                  |       | Panama       | Lawrence De Leon               |         |       |                   | Cristobal     | Gatun Lake     | General          |       |                       |       |
| Bonnie G.        | 13               | 6.15  | 13             | 7.39  |                    |       |                  |       | American     | C. A. Blair                    |         |       |                   | Cristobal     | Gatun Lake     | General          |       |                       |       |
| Oregon Maru      | 13               | 23.22 | 14             | 6.26  | 14                 | 14.09 | 15               | 13.50 | Japanese     | Kabushiki K. Kaisha            | 385.0   | 51.0  | 15.0              | Norfolk       | Yokohama       | Ballast          | 6,250 | 4,709                 |       |

\* Launch.

\* U. S. N. T.

\* Battleship.

\* Motor ship.

\* Motor schooner.

| THROUGH THE CANAL—PACIFIC TO ATLANTIC. |      |    |    |    |    |    |    |    |    |    |    |    |           |                                   |       |    |   |    |   |                |                 |                   |
|----------------------------------------|------|----|----|----|----|----|----|----|----|----|----|----|-----------|-----------------------------------|-------|----|---|----|---|----------------|-----------------|-------------------|
| Wytheville.....                        | 13   | 21 | 25 | 14 | 9  | 37 | 14 | 17 | 05 | 14 | 18 | 10 | American. | Barber Line (S. B.)               | 396.0 | 55 | 0 | 27 | 0 | New York.      | Mike, Japan.    | Gasoline and oil. |
| Munindies.....                         | 14   | 9  | 20 | 14 | 10 | 36 | 14 | 17 | 54 | 15 | 0  | 40 | American. | Munindies Steamship Corp.         | 370.0 | 53 | 0 | 25 | 0 | Newport News   | San Diego.      | Coal.             |
| Oak Branch.....                        | 14   | 16 | 56 | 15 | 6  | 10 | 14 | 16 | 15 | 15 | 10 | 18 | British.  | Nautilus Steamship Co., Ltd.      | 385.0 | 49 | 9 | 15 | 0 | Liverpool.     | Guayaquil.      | General.          |
| Liebre.....                            | 15   | 6  | 05 | 15 | 7  | 55 | 15 | 15 | 18 | 15 | 16 | 18 | American. | General Petroleum Co.             | 433.0 | 56 | 2 | 22 | 0 | Buenos Aires.  | San Pedro.      | Ballast.          |
| Decaulon.....                          | 14   | 14 | 10 | 15 | 10 | 47 | 15 | 18 | 00 | 15 | 19 | 08 | British.  | Blue Funnel Line.                 | 443.0 | 52 | 0 | 28 | 0 | New York.      | Yokohama.       | General.          |
|                                        |      |    |    |    |    |    |    |    |    |    |    |    |           |                                   |       |    |   |    |   |                |                 |                   |
| Afrika.....                            | 8    | 20 | 40 | 9  | 8  | 01 | 9  | 15 | 13 | 9  | 16 | 20 | Danish.   | East Asiatic Co.                  | 445.8 | 60 | 3 | 32 | 0 | Shanghai       | Copenhagen.     | General.          |
| Vancouver.....                         | 8    | 23 | 45 | 9  | 8  | 49 | 9  | 15 | 57 | 9  | 17 | 07 | British.  | Gow Harrison.                     | 376.0 | 50 | 0 | 25 | 0 | Portland.      | Norfolk.        | Wheat.            |
| Keats.....                             | 9    | 6  | 00 | 9  | 9  | 37 | 9  | 17 | 40 | 9  | 18 | 50 | British.  | Shakespeare Steamship Co.         | 380.5 | 47 | 6 | 24 | 5 | Portland.      | Queensdown.     | Wheat.            |
| Reading.....                           | 9    | 13 | 15 | 9  | 4  | 00 | 9  | 22 | 25 | 10 | 11 | 45 | British.  | J. Cory & Sons.                   | 374.9 | 51 | 3 | 24 | 0 | San Francisco. | Hull            | Barley in sacks.  |
| Cleveland.....                         | 9-26 | 6  | 00 | 10 | 7  | 40 | 10 | 14 | 38 | 10 | 13 | 27 | American. | United States Navy.               | 308.0 | 36 | 0 | 17 | 0 | Amapala.       | New York.       | General.          |
| Astronomer.....                        | 9    | 27 | 30 | 10 | 7  | 52 | 10 | 16 | 14 | 11 | 15 | 05 | British.  | Harrison Line.                    | 432.7 | 58 | 2 | 27 | 0 | Vancouver.     | Liverpool.      | General.          |
| Laurel C. Hall.....                    | 9    | 17 | 00 | 10 | 7  | 52 | 10 | 16 | 25 | 12 | 6  | 10 | British.  | Pacific Metals Corporation.       | 81.0  | 25 | 6 | 10 | 0 | Buenaventura.  | Cristobal.      | Coffee.           |
| West Cotacacoe.....                    | 10   | 9  | 00 | 10 | 11 | 09 | 10 | 19 | 02 | 10 | 23 | 15 | American. | Elders Steel Steamship Co.        | 427.0 | 54 | 3 | 24 | 5 | Willapa Harbor | New York.       | Lumber.           |
| Libertad.....                          | 10   | 10 | 10 | 10 | 11 | 59 | 10 | 20 | 12 | 10 | 22 | 12 | American. | Atlantic-Gulf Steamship Co.       | 410.0 | 56 | 0 | 19 | 0 | Portland.      | Baltimore.      | General.          |
| Celestial.....                         | 10   | 17 | 00 | 11 | 8  | 01 | 11 | 16 | 15 | 12 | 6  | 15 | American. | Williams-Dimond Co. (S. B.).      | 429.0 | 55 | 2 | 28 | 6 | Seattle.       | Glasgow.        | General.          |
| Yametic.....                           | 11   | 11 | 45 | 11 | 13 | 17 | 11 | 21 | 45 | 12 | 1  | 20 | British.  | Andrew Weir & Co.                 | 400.1 | 52 | 3 | 25 | 6 | Makata.        | Hamburg.        | Phosphates.       |
| Jamaica.....                           | 11   | 13 | 40 | 11 | 14 | 35 | 11 | 21 | 35 | 12 | 1  | 20 | British.  | Pacific Steam Navigation Co.      | 220.0 | 34 | 0 | 11 | 0 | Tumaco.        | Pto. Colombia.  | General.          |
| Argyle.....                            | 11   | 13 | 40 | 12 | 6  | 51 | 12 | 14 | 28 | 12 | 14 | 28 | French.   | Compagnie Du Boleo.               | 320.2 | 40 | 7 | 17 | 0 | Santa Rosalia. | Tampico.        | Ballast.          |
| Minnesota.....                         | 12   | 4  | 30 | 12 | 9  | 05 | 12 | 15 | 55 | 12 | 15 | 55 | American. | United American Line.             | 407.0 | 53 | 7 | 23 | 0 | Everett.       | New York.       | General.          |
| Lyons Maru.....                        | 12   | 7  | 12 | 12 | 9  | 54 | 12 | 17 | 26 | 13 | 6  | 15 | Japanese. | Nippon Yusen Kaisha.              | 445.0 | 58 | 0 | 21 | 0 | Yokohama.      | New York.       | General.          |
| Frederick Luckenbach.....              | 11   | 21 | 00 | 12 | 11 | 14 | 12 | 19 | 15 | 12 | 22 | 05 | American. | E. F. Luckenbach.                 | 317.5 | 46 | 1 | 22 | 6 | Portland.      | New Orleans.    | Lumber, general.  |
| Urubamba.....                          | 12   | 12 | 25 | 12 | 13 | 49 | 12 | 21 | 15 | 12 | 21 | 15 | Peruvian. | Peruvian Line.                    | 381.2 | 46 | 2 | 22 | 0 | Ilo.           | Cristobal.      | (9)               |
| Siam.....                              | 12   | 15 | 00 | 13 | 6  | 42 | 13 | 15 | 52 | 13 | 16 | 42 | Danish.   | East Asiatic Co.                  | 398.2 | 53 | 6 | 27 | 6 | San Francisco. | London.         | (10)              |
| Lompoc.....                            | 13   | 6  | 31 | 13 | 7  | 47 | 13 | 16 | 12 | 13 | 17 | 54 | British.  | C. T. Bowring & Co.               | 435.0 | 56 | 0 | 21 | 0 | Talca.         | Tampico.        | Ballast.          |
| San Zeferino.....                      | 13   | 7  | 00 | 13 | 8  | 52 | 13 | 17 | 38 | 13 | 17 | 38 | British.  | Eagle Oil Transportation Co.      | 420.1 | 54 | 6 | 19 | 0 | Valparaiso.    | Tampico.        | Ballast.          |
| Oreana.....                            | 13   | 9  | 00 | 13 | 10 | 12 | 13 | 17 | 35 | 13 | 21 | 56 | American. | Pacific Steam Navigation Co.      | 540.0 | 53 | 0 | 25 | 0 | Valparaiso.    | Liverpool.      | General.          |
| Charlton Hall.....                     | 13   | 11 | 15 | 13 | 11 | 47 | 13 | 20 | 00 | 13 | 21 | 56 | American. | United States Steel Products Co.  | 400.0 | 50 | 0 | 26 | 0 | Tacoma.        | Boston.         | General.          |
| Ootomarsun.....                        | 13   | 16 | 45 | 14 | 6  | 35 | 14 | 15 | 07 | 14 | 15 | 07 | Dutch.    | Vincke & Co.                      | 365.0 | 48 | 0 | 22 | 0 | Portland.      | Queensdown.     | Wheat.            |
| Kina.....                              | 13   | 17 | 50 | 14 | 7  | 50 | 14 | 15 | 40 | 14 | 18 | 07 | Dutch.    | Orient Steamship Co.              | 376.0 | 51 | 7 | 21 | 0 | Seattle.       | Copenhagen.     | General.          |
| Apple Branch.....                      | 13   | 23 | 30 | 14 | 8  | 38 | 14 | 16 | 11 | 15 | 12 | 46 | British.  | Nantius Steamship Co.             | 385.0 | 53 | 3 | 27 | 0 | Punta Arenas.  | London.         | General.          |
| Eastern Glen.....                      | 14   | 6  | 45 | 14 | 9  | 35 | 14 | 17 | 34 | 14 | 21 | 15 | American. | N. Atl. & Western S. Co. (S. B.). | 399.9 | 54 | 7 | 24 | 0 | Guayaquil.     | Philadelphia.   | Lumber, general.  |
| Saltador.....                          | 14   | 7  | 30 | 14 | 11 | 04 | 14 | 18 | 00 | 14 | 19 | 07 | British.  | Pacific Steam Navigation Co.      | 215.0 | 33 | 5 | 12 | 0 | San Francisco. | Cristobal.      | General.          |
| Tamahuia.....                          | 14   | 5  | 00 | 14 | 11 | 05 | 14 | 19 | 07 | 14 | 19 | 07 | American. | South Pacific Railroad Co.        | 380.8 | 71 | 2 | 30 | 4 | Portland.      | New York.       | Ballast.          |
| Willifaro.....                         | 14   | 9  | 55 | 14 | 13 | 46 | 14 | 20 | 52 | 14 | 22 | 05 | American. | Williams Steamship Co.            | 386.0 | 52 | 2 | 33 | 0 | Portland.      | New York.       | (11)              |
| O-147.....                             | 9-19 | 15 | 40 | 14 | 7  | 11 | 14 | 14 | 58 | 14 | 15 | 48 | American. | United States Navy.               | 175.0 | 16 | 4 | 0  | 0 | Balboa.        | Cristobal.      | (12)              |
| Narbo.....                             | 9-19 | 15 | 46 | 14 | 10 | 06 | 14 | 16 | 15 | 14 | 16 | 15 | American. | United States Navy.               | 175.0 | 16 | 4 | 0  | 0 | Balboa.        | Cristobal.      | (12)              |
| Idzunao.....                           | 14   | 17 | 20 | 15 | 6  | 41 | 15 | 10 | 36 | 15 | 20 | 35 | American. | E. C. Evans & Sons (S. B.).       | 402.6 | 63 | 6 | 26 | 6 | San Francisco. | Avonmouth.      | Barley.           |
| Yakumo.....                            | 9    | 7  | 00 | 15 | 7  | 47 | 15 | 15 | 45 | 15 | 15 | 45 | Japanese. | Japanese Navy.                    | 434.0 | 68 | 6 | 26 | 6 | San Diego.     | New York.       | General.          |
| Woron.....                             | 9    | 7  | 10 | 15 | 8  | 18 | 15 | 16 | 30 | 15 | 16 | 30 | Japanese. | Japanese Navy.                    | 433.6 | 64 | 4 | 26 | 0 | San Diego.     | New York.       | General.          |
| Balboa.....                            | 14   | 21 | 00 | 15 | 8  | 59 | 15 | 17 | 20 | 15 | 19 | 45 | British.  | Ornes Steamship Co.               | 420.8 | 54 | 5 | 25 | 0 | Portland.      | Newport News.   | Wheat.            |
| Mongolian Prince.....                  | 14   | 23 | 15 | 15 | 9  | 38 | 15 | 17 | 24 | 15 | 19 | 45 | American. | Colombian Maritime Co.            | 190.0 | 29 | 1 | 15 | 3 | Buenaventura.  | Cristobal.      | (13)              |
| Helder.....                            | 15   | 9  | 55 | 15 | 10 | 46 | 15 | 18 | 16 | 15 | 18 | 16 | British.  | Furness Withy & Co.               | 423.5 | 56 | 0 | 24 | 6 | Portland.      | Hamver, London. | General.          |
| Princer.....                           | 15   | 6  | 15 | 15 | 12 | 58 | 15 | 20 | 55 | 15 | 20 | 55 | Dutch.    | Royal Dutch Steamship Co.         | 362.0 | 52 | 0 | 22 | 0 | Valparaiso.    | Amsterdam.      | General.          |

Cruiser.

\* For orders.

Copper, cocoa, cotton, coffee, etc.

Barley, flour and general.

Barley, coffee, and rice.

Lumber, canned goods, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 156, column 2.)



## Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of Same, Month of September, 1921.

## COMMODITY STATISTICS.

## ATLANTIC TO PACIFIC.

(Figures represent tons of 2,240 pounds. See footnote at end of tables.)

| Commodity.                   | From—  |              |                              |                       |                       |                  | To—             |                |                              |                              |                              |           |              |                       |                                |               |                   |
|------------------------------|--------|--------------|------------------------------|-----------------------|-----------------------|------------------|-----------------|----------------|------------------------------|------------------------------|------------------------------|-----------|--------------|-----------------------|--------------------------------|---------------|-------------------|
|                              | Total. | West Indies. | Last coast of South America. | Last coast of Canada. | Last coast of Mexico. | Cristobal, C. Z. | Other European. | British Isles. | East coast of United States. | West coast of South America. | West coast of United States. | Far East. | Australasia. | West coast of Canada. | West coast of Central America. | Balboa, C. Z. | Hawaiian Islands. |
| Agricultural implements..... | 694    |              |                              |                       |                       |                  |                 | 30             | 664                          | 84                           | 590                          | 4,721     |              | 20                    |                                |               |                   |
| Ammonia.....                 | 4,749  |              |                              |                       |                       |                  |                 |                | 4,749                        | 5                            | 28                           |           |              |                       |                                |               |                   |
| Asphalt.....                 | 5      |              |                              |                       |                       |                  |                 |                | 5                            |                              |                              |           |              |                       |                                |               |                   |
| Automobile accessories.....  | 16     |              |                              |                       |                       |                  |                 |                | 16                           | 16                           |                              |           |              |                       |                                |               |                   |
| Automobiles.....             | 444    |              |                              |                       |                       | 9                | 198             | 40             | 197                          | 15                           | 187                          | 163       | 70           |                       | 9                              |               |                   |
| Blood.....                   | 1,275  |              | 1,275                        |                       |                       |                  |                 |                |                              |                              | 1,275                        |           |              |                       |                                |               |                   |
| Brazil nuts.....             | 166    |              | 166                          |                       |                       |                  |                 |                |                              |                              | 166                          |           |              |                       |                                |               |                   |
| Bricks, fire.....            | 290    |              |                              |                       |                       |                  | 20              | 270            |                              |                              | 290                          |           |              |                       |                                |               |                   |
| Canned goods:                |        |              |                              |                       |                       |                  |                 |                |                              |                              |                              |           |              |                       |                                |               |                   |
| Fish.....                    | 245    |              |                              |                       |                       |                  | 46              | 10             | 189                          | 20                           | 225                          |           |              |                       |                                |               |                   |
| Fruit.....                   | 40     |              |                              |                       |                       |                  |                 |                | 40                           | 1                            | 39                           |           |              |                       |                                |               |                   |
| Meat.....                    | 526    |              |                              |                       |                       |                  | 30              |                | 496                          | 30                           | 496                          | 150       |              |                       |                                |               |                   |
| Milk.....                    | 150    |              |                              |                       |                       |                  |                 |                | 150                          |                              |                              |           |              |                       |                                |               |                   |
| Vegetables.....              | 558    |              |                              |                       |                       |                  | 56              |                | 502                          | 30                           | 526                          |           |              |                       |                                |               |                   |
| Other.....                   | 733    |              |                              |                       |                       |                  |                 | 8              | 725                          |                              | 725                          |           |              | 8                     |                                |               |                   |
| Cement.....                  | 1,834  |              |                              |                       |                       | 85               | 1,038           | 280            | 451                          | 1,068                        | 449                          | 250       |              | 67                    |                                |               |                   |
| Chalk.....                   | 250    |              |                              |                       |                       |                  | 250             |                |                              |                              | 250                          |           |              | 10                    |                                |               |                   |
| Charcoal.....                | 10     |              |                              |                       |                       |                  |                 | 10             | 455                          | 314                          | 346                          | 75        |              |                       | 25                             |               |                   |
| Chemicals.....               | 760    |              |                              |                       |                       |                  | 105             | 200            | 12,538                       | 309                          | 1,025                        |           | 2,666        |                       | 2                              | 12,038        |                   |
| Coal.....                    | 16,040 |              |                              |                       |                       | 37               |                 | 3,465          | 86                           |                              | 64                           |           | 22           |                       |                                |               |                   |
| Cocoa.....                   | 88     |              |                              |                       |                       |                  |                 | 2              | 24                           |                              | 2,722                        |           |              | 24                    |                                |               |                   |
| Coffee.....                  | 2,746  |              | 2,224                        |                       |                       | 498              |                 |                |                              |                              |                              |           |              |                       |                                |               |                   |
| Cold storage:                |        |              |                              |                       |                       |                  |                 |                |                              |                              |                              |           |              |                       |                                |               |                   |
| Cocoa butter.....            | 60     |              |                              |                       |                       |                  |                 |                | 60                           |                              | 50                           |           | 10           |                       |                                |               |                   |
| Lard.....                    | 603    |              | 2                            |                       |                       | 70               |                 |                | 531                          | 115                          | 488                          |           |              |                       |                                |               |                   |
| Corn.....                    | 140    |              |                              |                       |                       |                  |                 |                | 140                          |                              | 140                          |           |              |                       |                                |               |                   |
| Cotton.....                  | 19,207 |              |                              |                       |                       |                  |                 |                | 19,207                       |                              | 19,207                       |           |              |                       |                                |               |                   |
| Cresosote.....               | 7      |              |                              |                       |                       |                  |                 |                | 7                            | 7                            |                              |           |              |                       |                                |               |                   |
| Dyes.....                    | 70     |              |                              |                       |                       |                  |                 |                | 70                           |                              |                              | 70        |              |                       |                                |               |                   |
| Dyewoods.....                | 14     |              |                              |                       |                       |                  | 14              |                |                              | 14                           |                              |           |              |                       |                                |               |                   |
| Epsom salts.....             | 40     |              |                              |                       |                       |                  | 40              |                |                              |                              | 40                           |           |              |                       |                                |               |                   |
| Flour.....                   | 144    |              |                              |                       |                       | 120              |                 |                | 24                           | 144                          |                              |           |              |                       |                                |               |                   |
| Fruit, dried.....            | 231    |              |                              |                       |                       |                  |                 | 106            | 125                          |                              | 135                          |           |              |                       | 96                             |               |                   |
| Glass, glassware.....        | 2,645  |              |                              |                       |                       |                  | 2,475           |                | 576                          |                              | 2,645                        |           |              |                       |                                |               |                   |
| Glucose.....                 | 576    |              |                              |                       |                       |                  |                 |                | 576                          |                              | 576                          |           |              |                       |                                |               |                   |
| Graphite.....                | 13     |              |                              |                       |                       |                  |                 |                | 13                           |                              | 13                           |           |              |                       |                                |               |                   |
| Hardwoods.....               | 450    |              |                              |                       |                       |                  |                 |                | 450                          |                              | 450                          |           |              |                       |                                |               |                   |
| Rags.....                    | 44     |              |                              |                       |                       |                  | 44              |                |                              | 44                           |                              |           |              |                       |                                |               |                   |



[illegible]





**COMMODITY STATISTICS.—PACIFIC TO ATLANTIC—Continued.**  
(Figures represent tons of 2,240 pounds.)

| Commodity.       | From—   |                   |                                |                       |              |           | To—                          |                              |                              |                |                 |                  |              |                              |
|------------------|---------|-------------------|--------------------------------|-----------------------|--------------|-----------|------------------------------|------------------------------|------------------------------|----------------|-----------------|------------------|--------------|------------------------------|
|                  | Total.  | Hawaiian Islands. | West coast of Central America. | West coast of Canada. | Australasia. | Far East. | West coast of United States. | West coast of South America. | East coast of United States. | British Isles. | Other European. | Cristobal, C. Z. | West Indies. | East coast of South America. |
| Oils:            |         |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |              |                              |
| Coconut          | 891     |                   |                                |                       |              | 661       | 230                          | 319                          | 891                          | 319            |                 |                  |              |                              |
| Cottonseed       | 319     |                   |                                |                       |              |           |                              |                              | 10                           |                |                 |                  |              |                              |
| Eucalyptus       | 10      |                   |                                |                       | 10           |           |                              |                              | 4,820                        |                |                 |                  |              |                              |
| Naphtha          | 4,820   |                   |                                |                       | 4,820        |           |                              |                              | 18,278                       | 7,257          |                 |                  |              |                              |
| Refined          | 18,278  |                   |                                |                       |              | 325       |                              |                              | 325                          |                |                 |                  |              |                              |
| Wood             | 325     |                   |                                |                       |              |           | 2,506                        |                              | 2,506                        |                |                 |                  |              |                              |
| Onions           | 2,506   |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |              |                              |
| Onyx.            | 31      |                   | 31                             |                       |              |           |                              |                              |                              |                |                 | 31               |              |                              |
| Ores:            |         |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |              |                              |
| Copper           | 3,330   |                   |                                |                       |              |           |                              | 3,330                        | 3,305                        | 25             |                 |                  |              |                              |
| Gold and silver  | 1,085   |                   |                                |                       |              |           |                              | 1,085                        | 1,032                        | 53             |                 |                  |              |                              |
| Magnesite        | 225     |                   |                                |                       |              |           | 225                          |                              | 225                          |                |                 |                  |              |                              |
| Manganese        | 80      |                   |                                |                       |              |           | 80                           |                              | 80                           |                |                 |                  |              |                              |
| Tin              | 1,608   |                   |                                |                       |              |           |                              | 1,608                        | 664                          | 944            |                 |                  |              |                              |
| Other            | 105     |                   |                                |                       |              |           |                              | 105                          | 95                           |                |                 | 10               |              |                              |
| Peanuts          | 44      |                   |                                |                       |              |           | 44                           |                              | 44                           |                |                 |                  |              |                              |
| Porcelain        | 120     |                   |                                |                       |              | 110       | 10                           |                              | 120                          |                |                 |                  |              |                              |
| Quinine          | 18      |                   |                                |                       |              |           |                              | 18                           |                              |                |                 | 18               |              |                              |
| Tea              | 7,205   |                   |                                |                       |              | 719       | 6,480                        | 6                            | 719                          | 45             | 1,749           | 6                | 4,686        |                              |
| Rubber           | 764     |                   |                                |                       |              | 715       | 21                           | 12                           | 745                          | 4              |                 | 15               |              |                              |
| Rye              | 200     |                   |                                |                       | 4            |           | 200                          |                              |                              | 200            |                 |                  |              |                              |
| Seeds:           |         |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |              |                              |
| Clover           | 285     |                   |                                |                       |              |           |                              | 285                          |                              | 285            |                 |                  |              |                              |
| Cotton           | 1,918   |                   |                                |                       |              |           |                              | 1,918                        |                              | 1,918          |                 |                  |              |                              |
| Hemp             | 90      |                   |                                |                       |              |           |                              | 90                           |                              | 65             | 25              |                  |              |                              |
| Other            | 51      |                   |                                |                       |              |           | 51                           |                              | 54                           |                |                 |                  |              |                              |
| Slates and limes | 1,459   |                   |                                |                       | 526          | 28        | 130                          | 738                          | 609                          | 278            | 376             | 196              |              |                              |
| Spices           | 30      |                   |                                |                       | 30           |           |                              |                              | 30                           |                |                 |                  |              |                              |
| Sugar            | 6,657   |                   |                                |                       |              | 4,232     |                              | 2,425                        | 4,232                        | 425            | 2,000           |                  |              |                              |
| Syrup            | 12      |                   |                                |                       |              |           | 12                           |                              | 12                           |                |                 |                  |              |                              |
| Tale             | 40      |                   |                                |                       |              |           | 40                           |                              | 40                           |                |                 |                  |              |                              |
| Tea              | 546     |                   |                                |                       |              | 538       | 8                            |                              | 538                          |                | 8               |                  |              |                              |
| Walnuts          | 169     |                   |                                |                       |              |           | 14                           | 155                          | 169                          |                |                 |                  |              |                              |
| Wheat            | 75,486  |                   |                                |                       | 1,415        |           | 73,968                       | 103                          |                              | 46,597         | 28,889          |                  |              |                              |
| Wool             | 5,522   |                   |                                |                       | 2,696        |           | 2,805                        | 221                          | 2,814                        | 2,620          | 19              | 69               |              |                              |
| General          | 19,299  | 7,166             | 23                             | 3                     | 1,215        | 1,546     | 7,233                        | 2,113                        | 15,655                       | 1,268          | 1,343           | 942              |              | 91                           |
| Totals           | 454,174 | 14,765            | 1,120                          | 6,217                 | 26,020       | 11,516    | 319,197                      | 75,338                       | 145,522                      | 169,224        | 12,829          | 11,939           | 4,896        | 704                          |

NOTE.—These data are compiled from declarations of cargo and manifests submitted by the ships' masters, and, while incomplete, are indicative of the kind and quantity of the various commodities passing through Canal. From the cargo declarations submitted it was possible to classify 70 per cent of the cargo passing from the Atlantic to the Pacific, and 95 per cent of the cargo from Pacific to Atlantic ports; the remaining cargo has been included as "General."



**Supplement No. 4 to Tariff No. 5.—Coal.**

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., October 12, 1921.

**ITEM 21.—COAL.**

(Effective October 15, 1921.)

|                                                                                                                                                                                                                                                                                                                                     | Cristobal-Colon.              | Balboa. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------|
| 1. For steamships, including warships of all nations, delivered from coaling plants, per ton of 2,240 pounds, except as provided in paragraph 2.....                                                                                                                                                                                | \$12.00                       | \$15.00 |
| 2. For vessels transiting the Canal that are directed by The Panama Canal to take coal at Balboa on account of the condition of the plants, the quantity available, or for the purpose of expediting transit.....                                                                                                                   |                               | 12.00   |
| 3. For steamships, including warships of all nations, when delivered from lighters in quantities of 50 tons or more, per ton of 2,240 pounds.....                                                                                                                                                                                   | 13.00                         | 16.00   |
| 4. For steamships, including warships of all nations, when delivered from lighters in quantities of less than 50 tons with minimum charge for 20 tons and with maximum charge not to exceed that for 50 tons at prices specified in paragraph 3, per ton of 2,240 pounds.....                                                       | 15.00                         | 18.00   |
| 5. When request is made by commander of vessel, chief engineer, or agent, for trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, an additional charge of 90 cents per ton will be made for extra handling.                                                                                  |                               |         |
| 6. For lump coal for galley use, delivered in sacks, additional charge per ton, \$12. Should the vessel furnish satisfactory sacks, the charge will be only \$5 per ton additional. If delivery is made other than at the reloading side of the coaling plant, the extra cost of such special delivery will be charged in addition. |                               |         |
| 7. For coal for cargo, delivered only by special authority of the Governor, per ton of 2,240 pounds.....                                                                                                                                                                                                                            | Prices quoted on application. |         |

M. L. WALKER,

*Acting Governor, The Panama Canal.*

*Second Vice President, Panama Railroad Company.*

**Milk.**

One hundred tons of powdered milk were shipped through the Canal in September from New York to Chilean and Peruvian ports. In the preceding month, 26 tons were shipped from the west coast of the United States to the Atlantic coast of the United States. From the beginning of the calendar year, 2,741 tons of dried or powdered milk have passed through the Canal from Pacific to Atlantic, but the 100 tons in August were the first declared from Atlantic to Pacific. Of the 2,741 tons from Pacific to Atlantic, 2,570 tons were from Australia and New Zealand for the United Kingdom, and 171 tons from the Pacific coast of the United States to the Atlantic coast of the United States.

Canned milk (condensed or evaporated) has been shipped through the Canal in considerable quantity from the beginning of its operation. In September 150 tons were shipped from the Atlantic coast of the United States to the Far East, and in the preceding portion of the calendar year the shipments from Atlantic to Pacific aggregated 723 tons. Of this quantity, 501 tons were from the United States to the Far East, 220 tons from the United States to the west coast of South America, and 2 tons were from Cristobal (transferred shipments) for the west coast of South America.

The traffic from Pacific to Atlantic in canned milk has been heavier than that in the opposite direction. In September it amounted to

2,701 tons, of which 2,695 tons were from the west coast of the United States and 6 tons from Canada. The 6 tons from Canada went to France and the American shipments were 800 tons from Seattle to the United Kingdom and 1,895 tons from several ports to the Atlantic coast of the United States, one shipment alone amounting to 875 tons. Previous shipments in the calendar year were made up of 344 tons from Australasia to the United Kingdom, 1,732 tons from the United States to the United Kingdom, and 1,666 tons in the United States coastwise trade, a total of 3,742 tons.

### **Ships at Canal Repair Shops.**

The following vessels were at the Balboa shops for repairs during the week ended October 15:

Survey vessel *Carnegie*, dock, stage, clean and paint bottom; make fresh water connection for circulating system on gasoline engine; perform necessary repairs to rudder; draw tail shaft; renew broken portion of tail shaft sleeve; launch *Wilson B. Gaither*, scrape and clean bottom; renew shoe; renew part of stem; renew bulwark and rail capping as necessary; overhaul Delco lighting plant and renew foundation of same; renew coupling to circulating water pump; house boat *No. 179*, dock, stage, and clean; scale and paint bottom to light load line; examine and repair hull and tanks as necessary; barges *No. 106*, dock, stage, and clean; scale and paint bottom to light load line; examine and repair hull and tanks as necessary; *No. 107*, dock, stage, and clean; scale and paint bottom to light load line; examine and repair hull and tanks as necessary; *No. 108*, dock, stage, and clean; scale and paint bottom to light load line; examine and repair hull and tanks as necessary.

The following vessels were at the Cristobal shops for repairs during the week ended October 17:

Steamship *Colon*, furnish 6 hatch bar bolts for No. 3 hatch with washer and nuts; renew 6 hatch bar bolts for No. 2 hatch with washer and nuts; make and fit 1 valve seat for fire pump; make and fit 1 valve seat for brine pump; make 3 valve stems for sanitary pump; repair automatic steam valve starboard feed pump; repair chain fall; fit heavier flanges on steam pipes to winches; launch *Gloriana*, repair deadwood, shaft log and keel, and renew as found necessary; remove copper on bottom; calk hull; test and reinstall copper; manufacture and install awning; repair monkey rail; repair sides of booby hatch; remove cylinders, piston, connecting rods, and flywheel from main engine; unship engine base from foundation; raise and block base up for shipwrights to work on keel; reinstall and assemble engine; straighten strut and install; straighten propeller and install; manufacture and install rudder and stock, etc.; steamship *Balboa*, renew lagging and jacket on boilers where necessary; manufacture and fit gooseneck on No. 4 cargo boom; repair 1 swivel and cargo hook, etc.; barge *No. 122*, dock and undock, clean and paint as directed; tug *La Boca*, straighten bulwarks, install new channel iron top rail; dredge *Marmot*, renew plates and woodwork in well as directed; repair angles and fenders; steamships *La Navarre*, *Honduras*, and *Herbert G. Wylie*, launch *Gargoyle*, motor ship *Selandia*, minor repairs.

### **PREVIOUSLY REPORTED.**

U. S. S. *Sciota*, repair anchor windlass; steamships *Cristobal*, install internal feed flanges in starboard boilers, etc.; *General W. C. Gorgas*, make repairs to Weir pump; make 2 iron hooks for gangway rest, etc.

### **Seismic Disturbance.**

An earthquake shock of greater intensity than the usual seismic disturbances on the Isthmus occurred in the morning of October 17. The seismograph record at Balboa Heights showed that the movement began at 6.36.22 a. m. and ended at 6.40.30 a. m., lasting 4 minutes and 8 seconds. The maximum amplitude of displacement was 27 millimeters, and the intensity was estimated at III or IV on the Rossi-Foré scale of I to X. The distance of the epicenter of disturbance was estimated at 70 miles from Balboa Heights, in a westerly direction. The shock was less violent than three or four of those which occurred in October, 1913.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending October 15, 1921.

| Name of vessel.      | Line or charterer.               | Arrived.    | Departed.   | Cargo—                            |                               |
|----------------------|----------------------------------|-------------|-------------|-----------------------------------|-------------------------------|
|                      |                                  |             |             | Discharged                        | Laded.                        |
|                      |                                  |             |             | Tons.                             | Tons.                         |
| Caribbean            | Panama Railroad Cattle Industry. |             | October 1.  |                                   | 52                            |
| Bayano               | Elders & Fyffes, Ltd.            | October 1.  | October 1.  | 30                                | 5                             |
| Canada               | Johnson Steamship Co.            | October 1.  | October 2.  | 37                                | ( <sup>2</sup> )              |
| Allianca             | Panama Railroad Steamship Line.  | October 1.  | October 5.  | 695                               | 1,361                         |
| Ecuador              | Pacific Mail Steamship Co.       | October 2.  | October 3.  | 444                               | 106                           |
| Sarpfos.             | Caribbean Steamship Line.        | October 2.  | October 3.  | 104                               | ( <sup>2</sup> )              |
| Ucayali.             | Peruvian Line.                   | October 2.  |             | 1,744                             |                               |
| Balboa.              | Colombian Maritime Co.           | October 2.  | October 4.  | 470                               | ( <sup>2</sup> )              |
| Santa Luisa.         | W. R. Grace & Co.                | October 3.  | October 3.  | 30                                | ( <sup>2</sup> )              |
| Heredia              | United Fruit Co.                 | October 3.  | October 6.  | 803                               | 148                           |
| Achilles.            | Panama Railroad Steamship Line.  | October 3.  | October 5.  | 11,999                            | ( <sup>2</sup> )              |
| Ulva.                | United Fruit Co.                 | October 4.  | October 5.  | 275                               | 54                            |
| Palena.              | Chilean Steamship Line.          | October 4.  | October 8.  | 1,014                             | 476                           |
| Santa Marta.         | United Fruit Co.                 | October 5.  | October 6.  | 84                                | 194                           |
| Metapan.             | United Fruit Co.                 | October 5.  | October 5.  | <sup>1</sup> / <sub>2</sub>       | 12                            |
| Stuyvesant.          | Royal Netherlands W. I. Mail.    | October 5.  | October 6.  | 46 <sup>1</sup> / <sub>2</sub>    |                               |
| Sixola.              | United Fruit Co.                 | October 6.  | October 6.  | 3                                 | 3 <sup>1</sup> / <sub>2</sub> |
| Columbia.            | New Orleans & S. A. S. S. Line.  | October 6.  | October 6.  | 125                               | 12                            |
| Manavi.              | Pacific Steam Navigation Co.     |             | October 6.  |                                   | 121                           |
| Stuyvesant.          | Royal Netherlands W. I. Mail.    | October 7.  | October 8.  | ( <sup>1</sup> )                  | 1,841                         |
| Gen. G. W. Goethals. | Panama Railroad Steamship Line.  |             | October 8.  |                                   | 2,245                         |
| Cuba.                | Pacific Mail Steamship Co.       | October 7.  |             | 766                               |                               |
| Quilpue.             | Pacific Steam Navigation Co.     | October 8.  | October 8.  | 558                               | 161                           |
| Tamar.               | Pacific Steam Navigation Co.     | October 8.  |             | 72                                |                               |
| San Bruno.           | United Fruit Co.                 | October 8.  | October 8.  | 8                                 | 19                            |
| Antillian.           | Leyland Line.                    | October 8.  |             | 446                               |                               |
| Caribbean.           | Panama Railroad Cattle Industry. | October 8.  |             | 800                               |                               |
| Gen. W. C. Gorgas.   | Panama Railroad Steamship Line.  | October 8.  |             | 1,293                             |                               |
| Atenas.              | United Fruit Co.                 | October 9.  | October 9.  | ( <sup>1</sup> )                  | 30                            |
| Quilpue.             | Pacific Steam Navigation Co.     |             | October 9.  | ( <sup>1</sup> )                  | 161                           |
| Cristobal.           | Panama Railroad Steamship Line.  | October 9.  |             | 9,617                             |                               |
| Caribbean.           | Panama Railroad Cattle Industry. |             | October 11. |                                   | 217                           |
| Astronomer.          | Harrison Line.                   | October 10. | October 11. | ( <sup>1</sup> )                  | 164                           |
| Antillian.           | Leyland Line.                    |             | October 12. |                                   | 858                           |
| Laura C. Hall.       | Pacific Metals Corporation.      | October 10. | October 12. | 77                                | 9                             |
| Cartago.             | United Fruit Co.                 | October 10. | October 12. | 698                               | 16                            |
| La Navarre.          | French Line.                     | October 10. | October 14. | 30                                | 280                           |
| Selandia.            | East Asiatic Co.                 | October 11. | October 12. | 441                               | ( <sup>2</sup> )              |
| Tolosa.              | United Fruit Co.                 | October 11. | October 12. | 330                               | 38                            |
| San Gil.             | United Fruit Co.                 | October 11. | October 11. | 8                                 | ( <sup>2</sup> )              |
| Jamaica.             | Pacific Steam Navigation Co.     | October 11. | October 14. | 486                               | 3                             |
| Quillota.            | Pacific Steam Navigation Co.     | October 12. | October 13. | 68                                | 120                           |
| Urubamba.            | Peruvian Steamship Line.         | October 12. |             | 2,373 <sup>1</sup> / <sub>2</sub> |                               |
| Lyons Maru.          | Nippon Yusen Kaisha.             | October 12. | October 13. | 245                               | ( <sup>2</sup> )              |
| Atenas.              | United Fruit Co.                 | October 12. | October 12. | 4                                 | 162                           |
| Salvador.            | Pacific Steam Navigation Co.     | October 14. |             | 852                               |                               |
| Honduras.            | French Line.                     | October 14. |             | 23                                |                               |
| Cuba.                | Pacific Mail Steamship Co.       |             | October 13. |                                   | 1,615                         |
| Tamar.               | Pacific Steam Navigation Co.     |             | October 14. |                                   | 870                           |
| Ebro.                | Pacific Steam Navigation Co.     | October 15. |             | 90                                |                               |
| Helder.              | Royal Netherlands W. I. Mail.    | October 15. |             | 230                               |                               |
| Balboa.              | Colombian Maritime Co.           | October 15. |             | 582                               |                               |
| Coronado.            | Elders & Fyffes, Ltd.            | October 15. | October 15. | 5                                 | <sup>1</sup> / <sub>2</sub>   |

<sup>1</sup> No cargo discharged.<sup>2</sup> No cargo laded.<sup>3</sup> Pounds.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending October 15, 1921.

| Name of vessel. | Line or charterer.            | Arrived.    | Departed.   | Cargo—     |        |
|-----------------|-------------------------------|-------------|-------------|------------|--------|
|                 |                               |             |             | Discharged | Laded. |
|                 |                               |             |             | Tons.      | Tons.  |
| Palena.         | Chilean Steamship Line.       | October 3.  | October 3.  | 3          |        |
| Cuba.           | Pacific Mail Steamship Co.    | October 6.  | October 7.  | 87         | 1      |
| Manavi.         | Pacific Mail Steamship Co.    | October 6.  | October 6.  |            | 5      |
| Depere.         | United States Shipping Board. | October 8.  | October 9.  | 725        |        |
| Quilpue.        | Pacific Steam Navigation Co.  | October 8.  | October 8.  | 11         |        |
| Barima.         | Pacific Steam Navigation Co.  | October 11. | October 11. |            | 2      |
| Jamaica.        | Pacific Steam Navigation Co.  | October 11. | October 11. | 1          |        |
| Laura C. Hall.  | Pacific Metals Corporation.   | October 12. | October 12. |            | 6      |
| Quillota.       | Pacific Steam Navigation Co.  | October 13. | October 13. |            | 1      |
| Cuba.           | Pacific Mail Steamship Co.    | October 13. | October 13. |            | 1      |



### Current Net Prices on Coal, Fuel Oil, and Beef.

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or less than 50 tons, the price is \$15 per ton at Cristobal, \$18 at Balboa.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

The following are current prices on fresh beef sold from the cold storage plant of the Canal. Prices quoted are United States currency, per pound net:

Beef hinds, 21 cents; beef fores, 13½ cents; beef ribs, entire set, 21 cents; short loins, 30 cents. This beef is from Colombian cattle slaughtered on the Isthmus.

### Price of Commissary Supplies.

Coffee, Commissary Special, lb. . . . . \$0.23

Sugar, finest, highly refined, States' granulated:

25-lb. sack . . . . . 1.75

5-lb. sack . . . . . .37

Lima beans, lb. . . . . .09

Spinach, 10-lb. tin . . . . . .66

Apples, 10-lb. tin . . . . . .69

Sweet potatoes, 10-lb. tin . . . . . .78

Navy beans, lb. . . . . .05

Roast beef, 6-lb. tin . . . . . 1.90

Boiled beef, 6-lb. tin . . . . . 1.50

Salad oil, 24-oz. bot. . . . . .33

Beef, hind quarters, lb. . . . . .21

Beef, fore quarters, lb. . . . . 1.33

Square chuck with prime ribs, lb. . . . . .16

Ribs, lb. . . . . .21

Short loins, lb. . . . . .30

Pork carcasses, lb. . . . . .24

Lamb carcasses, lb. . . . . .38

Mutton carcasses, lb. . . . . .25

Veal carcasses, lb. . . . . .34

Bananas, doz. . . . . .06

Bananas, hand . . . . . .07

Coconuts, ea. . . . . .04

Grapefruit, graded . . . . . 03, .05

Oranges, select Costa Rican . . . . . 03, .04

Carrots, lb. . . . . .06

Turnips, lb. . . . . .06

Pickles, bulk, gal. . . . . 1.40

Soap, brown laundry, cake . . . . . .07

Tea, English Breakfast, lb. . . . . .39

Soup, Campbell's, assorted, tin . . . . . .13

Rice, lb. . . . . .05

Jams, all flavors, 1-lb. tin . . . . . 1.40

Peaches, 10-lb. tin . . . . . 7.20

Condensed milk, case (48) . . . . . 5.76

Evaporated milk, case (48) . . . . . .30

Ketchup, pint bottle . . . . . .25

Vinegar, cider, large bottle . . . . . .48

Bacon, States', lb. . . . . .39

Ham, sugar cured, lb. . . . . .20

Corned beef, lb. . . . . .24

Standard mess pork, lb. . . . . .17

Lard compound . . . . . 1.35

Oleomargarine, 5-lb. tin . . . . . .44

Yeast, lb. . . . . .29

Pork sausage, lb. . . . . .48

States' potatoes, graded to special specifications. . . . . 05½

Lettuce, lb. . . . . .08

Onions, lb. . . . . 07½

Oranges, doz. . . . . .30

Cabbage, lb. . . . . .06

### MOVEMENTS OF OCEAN VESSELS.—Continued from page 147.

#### PORT OF CRISTOBAL.

| Date.           | Vessel.     | Line.                           | From—           | *ARRIVALS.  |             |                                  | *DEPARTURES. |             |                                  | For—                                   |
|-----------------|-------------|---------------------------------|-----------------|-------------|-------------|----------------------------------|--------------|-------------|----------------------------------|----------------------------------------|
|                 |             |                                 |                 | Date.       | Vessel.     | Line.                            | Date.        | Vessel.     | Line.                            |                                        |
| October 9.      | Atenas.     | United Fruit Co.                | New Orleans.    | October 9.  | Atenas.     | United Fruit Co.                 | October 9.   | Atenas.     | United Fruit Co.                 | Bocas del Toro.                        |
| October 9.      | Cristobal.  | Panama Railroad Steamship Line. | Norfolk.        | October 11. | Caribbean.  | Panama Railroad Cattle Industry. | October 11.  | Caribbean.  | Panama Railroad Cattle Industry. | Puerto Colombia.                       |
| October 10.     | Carthago.   | United Fruit Co.                | New Orleans.    | October 11. | San Gil.    | United Fruit Co.                 | October 11.  | San Gil.    | United Fruit Co.                 | Boston.                                |
| October 10.     | La Navarre. | French Line.                    | Havre.          | October 12. | Carthago.   | United Fruit Co.                 | October 12.  | Carthago.   | United Fruit Co.                 | New York via Bocas del Toro and Limon. |
| October 11.     | San Gil.    | United Fruit Co.                | Boston.         | October 12. | Atenas.     | United Fruit Co.                 | October 12.  | Atenas.     | United Fruit Co.                 | New Orleans.                           |
| October 11.     | Tolosa.     | United Fruit Co.                | New York.       | October 12. | Tolosa.     | United Fruit Co.                 | October 12.  | Tolosa.     | United Fruit Co.                 | New Orleans.                           |
| October 12.     | Atenas.     | United Fruit Co.                | Bocas del Toro. | October 12. | Antillan.   | Leyland Line.                    | October 12.  | Antillan.   | Leyland Line.                    | New York via Port Limon.               |
| October 12.     | Coronado.   | Elders & Fyffes, Ltd.           | Port Limon.     | October 12. | La Navarre. | French Line.                     | October 12.  | La Navarre. | French Line.                     | Mobile.                                |
| October 13.     |             |                                 |                 | October 14. | Tamar.      | Royal Mail Steam Packet Co.      | October 14.  | Tamar.      | Royal Mail Steam Packet Co.      | Havre via Plo. Colombia.               |
|                 |             |                                 |                 | October 15. | Coronado.   | Elders & Fyffes, Ltd.            | October 15.  | Coronado.   | Elders & Fyffes, Ltd.            | Cartagena.                             |
|                 |             |                                 |                 | October 15. | Owl.        | United States Navy.              | October 15.  | Owl.        | United States Navy.              | Kingsdon.                              |
|                 |             |                                 |                 |             |             |                                  |              |             |                                  | New Orleans.                           |
| PORT OF BALBOA. |             |                                 |                 |             |             |                                  |              |             |                                  |                                        |
| None.           |             |                                 |                 | October 9.  | Depere.     | General Steamship Corp. (S. B.). |              |             |                                  | San Francisco.                         |

\*Other than ships passing through the Canal.



# THE PANAMA CANAL RECORD

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## CANAL WORK IN SEPTEMBER.

The following is the report of the Acting Governor to the Secretary of War, of Canal work in the month of September, 1921:

BALBOA HEIGHTS, C. Z., October 20, 1921.

*The Honorable, the Secretary of War,  
Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of September, 1921.

### CANAL TRAFFIC.

The total number of vessels and craft of all kinds transiting the Canal, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                             | September,<br>1921. | August,<br>1921. | September,<br>1920. |
|---------------------------------------------|---------------------|------------------|---------------------|
| Commercial vessels .....                    | 221                 | 236              | 256                 |
| United States Government vessels .....      | 37                  | 31               | 12                  |
| Launches, etc. (under 10 tons) .....        | 2                   | 7                | 6                   |
| Total vessels and craft through Canal ..... | 260                 | 274              | 274                 |

### COMMERCIAL TRAFFIC.<sup>1</sup>

Commercial traffic through the Panama Canal during the month of September, 1921, fell slightly below that of the preceding month, but exceeded that for the months of May, June, and July, 1921.

Commercial vessels passing from the Atlantic to the Pacific numbered 128, and in point of tonnage not only exceeded the September traffic of last year, but with the exception of the months of December, 1920, and March, 1921, is the greatest Atlantic-Pacific traffic since the opening of the Canal.

Analyzing this traffic, and comparing it with the corresponding month of last year, and with the average month for the fiscal year ending June 30, 1921, we have the following:

|                                                         | September,<br>1921. | September,<br>1920. | Average month<br>for fiscal year<br>1921. |
|---------------------------------------------------------|---------------------|---------------------|-------------------------------------------|
| Origin of vessels passing from Atlantic to Pacific:     |                     |                     |                                           |
| From east coast of United States .....                  | 67                  | 54                  | 61                                        |
| From Europe .....                                       | 35                  | 38                  | 27                                        |
| From Cristobal, C. Z. ....                              | 16                  | 18                  | 17                                        |
| From east coast of Mexico .....                         | 2                   | 11                  | 9                                         |
| Miscellaneous .....                                     | 8                   | 4                   | 9                                         |
| Total vessels, Atlantic to Pacific .....                | 128                 | 125                 | 123                                       |
| Tonnage of above vessels, Panama Canal net measurement: |                     |                     |                                           |
| From east coast of United States .....                  | 319,109             | 224,955             | 260,792                                   |
| From Europe .....                                       | 160,534             | 181,980             | 122,536                                   |
| From Cristobal, C. Z. ....                              | 23,038              | 27,247              | 24,392                                    |
| From east coast of Mexico .....                         | 10,859              | 58,879              | 43,876                                    |
| Miscellaneous .....                                     | 17,064              | 11,288              | 26,813                                    |
| Total Panama Canal net tonnage .....                    | 530,634             | 504,349             | 473,409                                   |

<sup>1</sup> Commercial traffic includes all vessels of 10 tons or more transiting the Panama Canal, with the exception of vessels owned by the United States Government, or chartered by the Government to carry Government supplies.

|                                                                         | September,<br>1921. | September,<br>1920. | Average month<br>for fiscal year<br>1921. |
|-------------------------------------------------------------------------|---------------------|---------------------|-------------------------------------------|
| <b>Destination of vessels passing from the Atlantic to the Pacific:</b> |                     |                     |                                           |
| To west coast of United States and Canada.....                          | 64                  | 36                  | 28                                        |
| To west coast of South America.....                                     | 34                  | 53                  | 52                                        |
| To the Far East.....                                                    | 16                  | 16                  | 16                                        |
| To Australasia.....                                                     | 9                   | 9                   | 14                                        |
| Miscellaneous.....                                                      | 5                   | 6                   | 13                                        |
| <b>Total vessels, Atlantic to Pacific.....</b>                          | <b>128</b>          | <b>125</b>          | <b>123</b>                                |
| <b>Tonnage of above vessels, Panama Canal net measurement:</b>          |                     |                     |                                           |
| To west coast of United States and Canada.....                          | 297,908             | 153,047             | 124,060                                   |
| To west coast of South America.....                                     | 90,105              | 192,223             | 165,618                                   |
| To the Far East.....                                                    | 80,242              | 77,545              | 76,310                                    |
| To Australasia.....                                                     | 53,309              | 64,237              | 80,551                                    |
| Miscellaneous.....                                                      | 9,070               | 17,297              | 31,870                                    |
| <b>Total Panama Canal net tonnage, Atlantic to Pacific.....</b>         | <b>530,634</b>      | <b>504,349</b>      | <b>478,409</b>                            |

Commercial traffic from the Pacific to the Atlantic, with the exception of June, 1921, was the lowest in point of tonnage since June, 1920. Analyzing this traffic, and comparing it with the corresponding month of last year, and with the average month for the fiscal year ending June 30, 1921, we have the following:

|                                                                    | September,<br>1921. | September,<br>1920. | Average month<br>for fiscal year<br>1921. |
|--------------------------------------------------------------------|---------------------|---------------------|-------------------------------------------|
| <b>Origin of vessels passing from the Pacific to the Atlantic:</b> |                     |                     |                                           |
| From west coast of United States and Canada.....                   | 50                  | 34                  | 32                                        |
| From west coast of South America.....                              | 31                  | 66                  | 56                                        |
| From Australasia.....                                              | 5                   | 11                  | 11                                        |
| From Far East.....                                                 | 3                   | 12                  | 6                                         |
| Miscellaneous.....                                                 | 4                   | 7                   | 13                                        |
| <b>Total vessels, Pacific to Atlantic.....</b>                     | <b>93</b>           | <b>130</b>          | <b>118</b>                                |
| <b>Tonnage of above vessels, Panama Canal net measurement:</b>     |                     |                     |                                           |
| From west coast of United States and Canada.....                   | 255,165             | 139,001             | 148,322                                   |
| From west coast of South America.....                              | 84,212              | 210,222             | 187,547                                   |
| From Australasia.....                                              | 30,814              | 74,854              | 71,484                                    |
| From Far East.....                                                 | 14,762              | 65,126              | 29,325                                    |
| Miscellaneous.....                                                 | 9,550               | 15,233              | 36,236                                    |
| <b>Total Panama Canal net tonnage, Pacific to Atlantic.....</b>    | <b>394,503</b>      | <b>504,436</b>      | <b>472,914</b>                            |
| <b>Destination of vessels passing from Pacific to Atlantic:</b>    |                     |                     |                                           |
| To Europe.....                                                     | 43                  | 32                  | 38                                        |
| To east coast of United States.....                                | 28                  | 57                  | 42                                        |
| To Cristobal, C. Z.....                                            | 15                  | 21                  | 18                                        |
| To east coast of Mexico.....                                       | 5                   | 9                   | 10                                        |
| Miscellaneous.....                                                 | 2                   | 11                  | 10                                        |
| <b>Total vessels, Pacific to Atlantic.....</b>                     | <b>93</b>           | <b>130</b>          | <b>118</b>                                |
| <b>Tonnage of above vessels, Panama Canal net measurement:</b>     |                     |                     |                                           |
| To Europe.....                                                     | 204,820             | 161,840             | 168,410                                   |
| To east coast of United States.....                                | 140,555             | 239,065             | 194,169                                   |
| To Cristobal, C. Z.....                                            | 17,114              | 36,594              | 25,433                                    |
| To east coast of Mexico.....                                       | 26,478              | 44,536              | 54,367                                    |
| Miscellaneous.....                                                 | 5,536               | 22,401              | 30,535                                    |
| <b>Total Panama Canal net tonnage, Pacific to Atlantic.....</b>    | <b>394,503</b>      | <b>504,436</b>      | <b>472,914</b>                            |

It will be seen from the above analysis that traffic both to and from the west coast of the United States and Canada was much greater than for the corresponding month of last year, or of the average month for the past fiscal year. This increase shows both in the United States coastwise and in the West Coast-European traffic. Heavy shipments of grain, together with canned goods and lumber, made up the bulk of the cargoes from the west coast.

Traffic to and from the west coast of South America totaled only about half the normal tonnage as represented by the average month for the past fiscal year. This is due to a number of causes, chief of which is the continued stagnation in the nitrate trade, and the almost complete stoppage of oil shipments from Mexico.

The Australasian traffic also shows a decrease, particularly in the Pacific to the Atlantic traffic, which was less than half the tonnage for the average month during the past fiscal year. Traffic from the Far East also fell below the normal tonnage,

while the traffic to and from the east coast of Mexico was greatly curtailed due to the unsettled conditions in the Mexican oil fields.

A further comparison of the commercial traffic for September, 1921, with that of the preceding month, of the corresponding month of 1920, and of the average month's traffic for the past 12 months, shows the following.

|                                           | September,<br>1921. | August,<br>1921. | September,<br>1920. | Average month<br>for past year. |
|-------------------------------------------|---------------------|------------------|---------------------|---------------------------------|
| United States equivalent net tonnage..... | 748,744             | 792,442          | 832,742             | 768,058                         |
| Panama Canal net tonnage.....             | 925,137             | 965,276          | 1,008,785           | 941,664                         |
| Registered gross tonnage.....             | 1,167,220           | 1,219,817        | 1,293,470           | 1,193,436                       |
| Registered net tonnage.....               | 743,574             | 780,945          | 817,810             | 760,252                         |
| Tolls earned.....                         | \$892,001.54        | \$955,380.78     | \$1,010,150.63      | \$928,341.93                    |
| Tons of cargo carried.....                | 754,894             | 839,273          | 1,009,557           | 913,771                         |

Ocean-going commercial vessels passing through the Canal averaged 7.4 ships per day. The average tonnage, tolls, and tons of cargo carried, per commercial vessel, as compared with last month's traffic, and with September, 1920, were as follows:

|                                           | September,<br>1921. | August,<br>1921. | September,<br>1920. |
|-------------------------------------------|---------------------|------------------|---------------------|
| United States equivalent net tonnage..... | 3,388               | 3,358            | 3,265               |
| Panama Canal net tonnage.....             | 4,186               | 4,090            | 3,956               |
| Registered gross tonnage.....             | 5,282               | 5,169            | 5,072               |
| Registered net tonnage.....               | 3,365               | 3,309            | 3,207               |
| Tolls.....                                | \$4,036.21          | \$4,048.22       | \$3,945.96          |
| Tons of cargo (all vessels).....          | 3,416               | 3,556            | 3,944               |
| Tons of cargo (laden vessels only).....   | 4,289               | 4,217            | 4,853               |

#### TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

While all cargo-carrying vessels pay tolls on their net tonnage, as determined by established rules for measuring their available cargo-carrying space, yet the rate of such tolls per cargo ton furnishes interesting data, varying as it does not only in different ships, but in vessels of different nationalities.

The average rate of tolls paid on each ton (2,240 pounds) of cargo passing through the Panama Canal from the Atlantic to the Pacific was \$1.23, and from the Pacific to the Atlantic, \$0.77 per ton, with a general average of \$0.95 per ton. The average rate paid per cargo ton, by nationality of vessels, is shown in the following statement:

|                                               | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | General<br>average. |
|-----------------------------------------------|----------------------------|----------------------------|---------------------|
| British.....                                  | \$1.14                     | \$0.90                     | \$1.01              |
| Chilean.....                                  | 3.77                       | 2.50                       | 3.10                |
| Danish.....                                   | .64                        | .60                        | .62                 |
| Dutch.....                                    | 3.45                       | .65                        | 1.21                |
| French.....                                   | 38.46                      | .87                        | 1.74                |
| German.....                                   | .89                        | .....                      | .89                 |
| Italian.....                                  | 8.45                       | .53                        | 1.38                |
| Japanese.....                                 | .65                        | .71                        | .69                 |
| Norwegian.....                                | 36.62                      | .67                        | .72                 |
| Peruvian.....                                 | 8.74                       | 1.20                       | 2.52                |
| Swedish.....                                  | .....                      | .52                        | .52                 |
| United States.....                            | 1.25                       | .75                        | .96                 |
| Average rate, all ships, September, 1921..... | 1.23                       | .77                        | .95                 |
| Average rate, all ships, August, 1921.....    | 1.18                       | .88                        | .99                 |
| Average rate, all ships, July, 1921.....      | 1.44                       | .83                        | 1.05                |

The rate of tolls per cargo ton paid by vessels transiting the Canal in September, 1921, varied from \$38.46 per ton paid by the steamship *Saint Louis*, French registry, bound from Havre to Talcahuano, and carrying 118 tons of cargo, on which tolls of \$4,538.75 were assessed; to 44.7 cents per cargo ton, paid by the steamer *Willhilo*, United States registry, bound from Seattle to New York, and carrying 9,971 tons of general merchandise, on which tolls of \$4,458.75 were collected.

The variation in the rate of tolls paid per cargo ton by different vessels, and by vessels of various nationalities, is due to some vessels being but lightly loaded while others are carrying capacity cargoes. This also explains the variation in the rates per cargo ton between northbound and southbound ships of the same nationality.

## COMMODITY STATISTICS.

A classification of all cargo passing through the Canal during the month of September, 1921, by commodities, giving the origin and destination of same, has been previously compiled and was published in THE PANAMA CANAL RECORD under date of October 19, 1921. These statistics are compiled from declarations of cargo submitted by the ships' masters, and while incomplete, are indicative of the kind and quantity of commodities passing through the Canal. From the cargo declarations and manifests submitted, it was possible to classify 70 per cent of the September, 1921, cargo passing from the Atlantic to the Pacific, and 95 per cent from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith:

## CARGO PASSING FROM ATLANTIC TO PACIFIC.

|                                                    | Cargo tons. |         | Per cent of total cargo. |         |
|----------------------------------------------------|-------------|---------|--------------------------|---------|
|                                                    | September.  | August. | September.               | August. |
| Manufactured goods:                                |             |         |                          |         |
| Iron and steel.....                                | 50,488      | 28,373  | 23.2                     | 11.5    |
| Machinery.....                                     | 6,641       | 3,695   |                          |         |
| Railroad material.....                             | 9,391       | 2,796   |                          |         |
| Other.....                                         | 3,299       | 1,821   |                          |         |
| Oil:                                               |             |         |                          |         |
| Crude.....                                         | 17,981      | 36,454  | 13.3                     | 21.2    |
| Refined.....                                       | 19,781      | 28,685  |                          |         |
| Other.....                                         | 2,088       | 2,117   |                          |         |
| Cotton, raw.....                                   | 19,207      | 34,482  | 6.4                      | 10.8    |
| Coal.....                                          | 16,040      | 24,066  | 5.3                      | 7.6     |
| Sulphur.....                                       | 11,551      | 19,350  | 3.8                      | 6.1     |
| Metals (copper, 1,845 tons; iron, 6,139 tons)..... | 8,467       | 5,286   | 2.8                      | 1.7     |
| Phosphates.....                                    | 5,888       | 13      | 2.0                      | .....   |
| Ammonia.....                                       | 4,749       | 6,997   | 1.6                      | 2.2     |
| Rosin.....                                         | 2,764       | 2,431   | 0.9                      | 0.8     |
| Coffee.....                                        | 2,746       | 1,180   | 0.9                      | 0.4     |
| Glass and glassware.....                           | 2,645       | 593     | 0.9                      | 0.2     |
| Tobacco.....                                       | 2,452       | 893     | 0.8                      | 0.3     |
| Canned goods.....                                  | 2,252       | 3,171   | 0.8                      | 1.0     |
| Wax, paraffin.....                                 | 2,150       | 820     | 0.7                      | 0.3     |
| Sugar.....                                         | 2,000       | 7,145   | 0.7                      | 2.3     |
| Other and general.....                             | 108,140     | 107,602 | 35.9                     | 33.6    |
| Total cargo.....                                   | 300,720     | 317,970 | 100.0                    | 100.0   |

## CARGO PASSING FROM PACIFIC TO ATLANTIC.

|                                |         |         |       |       |
|--------------------------------|---------|---------|-------|-------|
| Barley.....                    | 107,831 | 77,661  | 23.7  | 14.9  |
| Wheat.....                     | 75,486  | 80,231  | 16.6  | 15.4  |
| Canned goods:                  |         |         |       |       |
| Fish.....                      | 17,232  | 7,972   | 12.5  | 4.2   |
| Fruit.....                     | 35,427  | 10,921  |       |       |
| Other.....                     | 4,302   | 2,875   |       |       |
| Lumber.....                    | 26,750  | 35,054  | 5.9   | 6.7   |
| Nitrate.....                   | 22,758  | 39,349  | 5.0   | 7.5   |
| Oils:                          |         |         |       |       |
| Refined.....                   | 18,278  | .....   | 5.4   | 0.5   |
| Naphtha.....                   | 4,820   | .....   |       |       |
| Other.....                     | 1,545   | 2,935   |       |       |
| Flour.....                     | 15,101  | 18,946  | 3.3   | 3.6   |
| Cold storage:                  |         |         |       |       |
| Mutton.....                    | 5,977   | 20,367  | 2.3   | 6.1   |
| Other.....                     | 4,623   | 11,291  |       |       |
| Metals:                        |         |         |       |       |
| Copper.....                    | 9,445   | 17,341  | 2.3   | 4.2   |
| Other.....                     | 1,071   | 4,084   |       |       |
| Other.....                     | 7,205   | 5,033   |       |       |
| Rice.....                      | 6,817   | 3,115   | 1.5   | 0.6   |
| Copra.....                     | 6,774   | 5,571   | 1.5   | 1.1   |
| Beans, peas, lentils.....      | 6,667   | 49,406  | 1.5   | 9.5   |
| Sugar.....                     | 6,064   | 5,192   | 1.5   | 1.0   |
| Fruit (dried, 6,321 tons)..... | 6,433   | 6,523   | 1.4   | 1.3   |
| Ores (copper, 3,330 tons)..... | 6,013   | 6,710   | 1.3   | 1.3   |
| Coffee.....                    | 5,522   | 10,468  | 1.2   | 2.0   |
| Wool.....                      | 5,522   | 4,140   | 1.2   | 0.8   |
| Cotton, raw.....               | 5,392   | 4,460   | 1.0   | 0.3   |
| Cacao.....                     | 4,327   | 1,492   | 0.7   | 0.3   |
| Ivory nuts.....                | 3,164   | .....   | 0.7   | ..... |
| General and other.....         | 38,550  | 93,157  | 8.6   | 17.7  |
| Total cargo.....               | 454,174 | 521,303 | 100.0 | 100.0 |



## UNITED STATES COASTWISE TRAFFIC.

The number of vessels engaged in the United States coastwise traffic, passing through the Panama Canal during September, 1921, together with their tonnage, tolls, and tons of cargo carried, as compared with the preceding months of the calendar year, was as follows: (See traffic by trade routes also.)

|                | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|----------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.          |                      |                    |             |                |                      |                    |             |                |
| January.....   | 17                   | 88,086             | \$91,390.00 | 76,593         | 16                   | 62,765             | \$64,343.59 | 81,336         |
| February.....  | 15                   | 80,940             | 79,169.20   | 67,302         | 17                   | 66,043             | 66,703.70   | 68,345         |
| March.....     | 16                   | 71,770             | 75,338.65   | 55,111         | 11                   | 61,804             | 64,470.64   | 52,289         |
| April.....     | 19                   | 92,033             | 94,185.00   | 94,484         | 14                   | 68,368             | 65,523.74   | 59,306         |
| May.....       | 19                   | 82,257             | 84,545.85   | 90,617         | 16                   | 75,593             | 72,813.55   | 93,242         |
| June.....      | 17                   | 96,199             | 91,577.11   | 68,809         | 11                   | 53,986             | 53,953.75   | 57,234         |
| July.....      | 19                   | 101,924            | 99,474.75   | 60,997         | 14                   | 70,477             | 72,103.75   | 91,991         |
| August.....    | 19                   | 86,278             | 81,734.17   | 55,387         | 23                   | 110,899            | 118,316.25  | 129,792        |
| September..... | 25                   | 134,239            | 136,340.58  | 72,620         | 15                   | 88,111             | 83,011.64   | 104,642        |

See also distribution of cargo tables on pages 178 and 179.

## UNITED STATES SHIPPING BOARD VESSELS.

The number of vessels under control of the United States Shipping Board passing through the Panama Canal during the month of September, 1921, together with their Panama Canal net tonnage, tolls, and tons of cargo carried, as compared with preceding months of the calendar year, was as follows:

|                | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|----------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.          |                      |                    |             |                |                      |                    |             |                |
| January.....   | 14                   | 59,738             | \$64,769.85 | 70,058         | 23                   | 96,877             | \$93,268.29 | 98,075         |
| February.....  | 8                    | 41,024             | 42,951.75   | 35,018         | 20                   | 96,441             | 94,082.01   | 108,285        |
| March.....     | 18                   | 94,823             | 96,782.80   | 83,978         | 8                    | 34,066             | 31,378.00   | 30,025         |
| April.....     | 13                   | 61,176             | 61,590.00   | 60,231         | 12                   | 56,049             | 53,162.18   | 52,908         |
| May.....       | 9                    | 39,614             | 40,180.00   | 48,489         | 21                   | 97,257             | 92,380.47   | 114,107        |
| June.....      | 17                   | 86,361             | 78,770.14   | 65,945         | 11                   | 49,370             | 48,080.00   | 59,696         |
| July.....      | 12                   | 67,851             | 65,796.25   | 29,918         | 12                   | 60,804             | 61,305.00   | 82,767         |
| August.....    | 15                   | 76,570             | 71,607.58   | 46,542         | 18                   | 79,390             | 77,353.39   | 91,897         |
| September..... | 10                   | 53,816             | 51,785.48   | 38,368         | 16                   | 84,433             | 82,566.25   | 109,610        |

## TRAFFIC BY TRADE ROUTES.

A detailed statement of the September traffic by trade routes has previously been compiled, and was published in THE PANAMA CANAL RECORD under date of October 12, 1921. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes. Traffic for the preceding month and for the corresponding month of last year is also shown, which affords a ready comparison of traffic over the leading trade routes:

## ATLANTIC TO PACIFIC.\*

|                                                                     | September, 1921. | August, 1921. | September, 1920. |
|---------------------------------------------------------------------|------------------|---------------|------------------|
| <i>Number of vessels.</i>                                           |                  |               |                  |
| United States coastwise.....                                        | 25               | 19            | 12               |
| Europe to west coast of United States.....                          | 18               | 17            | 14               |
| East coast of United States to Far East.....                        | 15               | 18            | 15               |
| Cristobal to west coast of South America.....                       | 12               | 12            | 14               |
| Europe to west coast of South America.....                          | 10               | 11            | 17               |
| Foreign ships in ballast between United States coastwise ports..... | 9                | 2             | .....            |
| East coast of United States to west coast of South America.....     | 9                | 11            | 18               |
| Europe to Australasia.....                                          | 4                | 6             | 5                |
| East coast of United States to Australasia.....                     | 4                | 5             | 3                |
| East coast of United States to west coast of Canada.....            | 4                | 1             | 2                |
| Europe to west coast of Canada.....                                 | 3                | 3             | 2                |
| West Indies to west coast of United States.....                     | 2                | .....         | .....            |
| Cristobal to west coast of United States.....                       | 2                | 1             | 3                |
| Cristobal to west coast of Central America.....                     | 2                | 2             | 1                |
| East coast of United States to Balboa, C. Z.....                    | 1                | 4             | 3                |
| East coast of Mexico to west coast of South America.....            | 1                | 2             | 9                |
| Miscellaneous.....                                                  | 7                | 6             | 7                |
| Totals.....                                                         | 128              | 120           | 125              |

## ATLANTIC TO PACIFIC—continued.

|                                                                     | September,<br>1921. | August,<br>1921. | September,<br>1920. |
|---------------------------------------------------------------------|---------------------|------------------|---------------------|
| <i>Panama Canal net tonnage.</i>                                    |                     |                  |                     |
| United States coastwise.....                                        | 134,239             | 86,278           | 44,651              |
| Europe to west coast of United States.....                          | 78,307              | 68,334           | 72,944              |
| East coast of United States to Far East.....                        | 73,761              | 90,256           | 73,733              |
| Foreign ships in ballast between United States coastwise ports..... | 41,125              | 7,759            |                     |
| Europe to west coast of South America.....                          | 36,538              | 47,902           | 60,300              |
| Europe to Australasia.....                                          | 30,603              | 42,837           | 37,671              |
| East coast of United States to west coast of South America.....     | 30,257              | 31,053           | 64,415              |
| East coast of United States to Australasia.....                     | 18,655              | 27,714           | 21,257              |
| Cristobal to west coast of South America.....                       | 17,658              | 17,372           | 21,408              |
| Europe to west coast of Canada.....                                 | 15,086              | 16,695           | 11,065              |
| East coast of United States to west coast of Canada.....            | 14,064              | 4,735            | 6,518               |
| West Indies to west coast of United States.....                     | 7,157               |                  |                     |
| East coast of United States to Balboa, C. Z.....                    | 7,008               | 17,564           | 10,569              |
| East coast of Mexico to west coast of South America.....            | 4,408               | 9,587            | 46,100              |
| Cristobal to west coast of United States.....                       | 3,756               | 2,206            | 5,654               |
| Cristobal to west coast of Central America.....                     | 1,624               | 1,624            | 185                 |
| Miscellaneous.....                                                  | 16,388              | 15,303           | 27,879              |
| Totals.....                                                         | 530,634             | 487,219          | 504,349             |
| <i>Tons of cargo carried.</i>                                       |                     |                  |                     |
| United States coastwise.....                                        | 72,620              | 55,387           | 50,450              |
| United States to Far East.....                                      | 105,935             | 112,454          | 96,281              |
| East coast of United States to Australasia.....                     | 16,900              | 31,150           | 25,819              |
| Europe to Australasia.....                                          | 19,686              | 16,266           | 35,768              |
| Europe to west coast of South America.....                          | 12,365              | 23,500           | 21,065              |
| Europe to west coast of Canada.....                                 | 12,115              | 8,828            | 20                  |
| East coast of United States to Balboa, C. Z.....                    | 12,038              | 19,114           | 12,025              |
| East coast of United States to west coast of South America.....     | 8,415               | 10,949           | 61,404              |
| East coast of Mexico to west coast of South America.....            | 7,889               | 17,718           | 70,481              |
| East coast of United States to west coast of Canada.....            | 4,774               | 2                | 10,933              |
| Cristobal to west coast of United States.....                       | 3,476               | 1,560            | 8,331               |
| Cristobal to west coast of South America.....                       | 2,362               | 3,443            | 10,551              |
| Cristobal to west coast of Central America.....                     | 854                 | 1,128            |                     |
| Europe to west coast of United States.....                          | 280                 | 684              | 7,450               |
| Miscellaneous.....                                                  | 21,011              | 15,787           | 33,639              |
| Totals.....                                                         | 300,720             | 317,970          | 444,217             |

## PACIFIC TO ATLANTIC.

|                                                                 |         |         |         |
|-----------------------------------------------------------------|---------|---------|---------|
| <i>Number of vessels.</i>                                       |         |         |         |
| West coast of United States to Europe.....                      | 24      | 23      | 8       |
| United States coastwise.....                                    | 15      | 23      | 13      |
| West coast of South America to Cristobal.....                   | 11      | 11      | 16      |
| West coast of South America to Europe.....                      | 9       | 10      | 13      |
| West coast of South America to east coast of United States..... | 8       | 13      | 26      |
| West coast of Canada to Europe.....                             | 6       | 2       | 4       |
| Australasia to Europe.....                                      | 4       | 11      | 6       |
| Central America to Cristobal.....                               | 3       | 2       | 1       |
| West coast of South America to east coast of Mexico.....        | 2       | 1       | 6       |
| West coast of United States to east coast of Mexico.....        | 2       | 1       | 2       |
| Far East to east coast of United States.....                    | 2       | 4       | 11      |
| Balboa, C. Z., to east coast of United States.....              | 1       | 1       |         |
| West coast of Canada to east coast of United States.....        | 1       | 2       | 1       |
| Australasia to east coast of United States.....                 | 1       | 2       | 5       |
| West coast of United States to Cristobal.....                   | 1       | 2       | 4       |
| Miscellaneous.....                                              | 3       | 8       | 15      |
| Totals.....                                                     | 93      | 116     | 131     |
| <i>Panama Canal net tonnage.</i>                                |         |         |         |
| West coast of United States to Europe.....                      | 112,759 | 109,893 | 38,893  |
| United States coastwise.....                                    | 88,111  | 110,899 | 52,759  |
| West coast of South America to Europe.....                      | 34,236  | 45,656  | 58,859  |
| West coast of South America to east coast of United States..... | 27,358  | 42,871  | 82,427  |
| West coast of Canada to Europe.....                             | 31,741  | 12,134  | 17,215  |
| Australasia to Europe.....                                      | 26,084  | 64,147  | 41,555  |
| West coast of South America to Cristobal.....                   | 12,409  | 16,825  | 28,592  |
| West coast of United States to east coast of Mexico.....        | 10,506  | 5,035   | 10,654  |
| West coast of South America to east coast of Mexico.....        | 9,587   | 4,274   | 27,357  |
| Far East to east coast of United States.....                    | 8,377   | 20,622  | 59,808  |
| Balboa, C. Z., to east coast of United States.....              | 7,008   | 8,063   |         |
| West coast of Canada to east coast of United States.....        | 4,971   | 7,304   | 5,448   |
| Australasia to east coast of United States.....                 | 4,730   | 4,514   | 33,299  |
| West coast of Central America to Cristobal.....                 | 2,542   | 1,398   | 185     |
| West coast of United States to Cristobal.....                   | 2,163   | 3,799   | 7,817   |
| Miscellaneous.....                                              | 11,921  | 20,623  | 39,568  |
| Totals.....                                                     | 394,503 | 478,057 | 504,436 |

## PACIFIC TO ATLANTIC—continued.

|                                                                 | September,<br>1921. | August,<br>1921. | September,<br>1920. |
|-----------------------------------------------------------------|---------------------|------------------|---------------------|
| <i>Tons of cargo carried.</i>                                   |                     |                  |                     |
| West coast of United States to Europe.....                      | 178,588             | 174,198          | 51,363              |
| United States coastwise.....                                    | 104,642             | 129,792          | 71,672              |
| West coast of Canada to Europe.....                             | 47,713              | 17,702           | 26,882              |
| West coast of South America to Europe.....                      | 44,570              | 45,625           | 63,433              |
| West coast of South America to east coast of United States..... | 21,979              | 47,717           | 121,503             |
| Australasia to Europe.....                                      | 20,192              | 54,877           | 41,327              |
| Far East to east coast of United States.....                    | 11,516              | 29,308           | 86,212              |
| West coast of South America to Cristobal.....                   | 8,424               | 8,490            | 20,741              |
| Australasia to east coast of United States.....                 | 5,828               | 1,585            | 28,096              |
| West coast of Central America to Cristobal.....                 | 650                 | 1,195            | 285                 |
| West coast of United States to Cristobal.....                   | 316                 | 2,473            | 2,046               |
| Miscellaneous.....                                              | 9,756               | 8,341            | 51,780              |
| Totals.....                                                     | 454,174             | 521,303          | 565,340             |

## LATIN-AMERICAN TRAFFIC.

In point of net tonnage, the Latin-American traffic for September, 1921, fell below that for August, and was but little more than half that for the corresponding month of last year. In cargo tons the decrease was even more marked, and the September traffic was approximately only a third of the cargo tonnage for September, 1920. The following tabulations show the number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality:

## ATLANTIC TO PACIFIC.

| Nationality.         | No.<br>of<br>vessels | TONNAGE.                                      |                      |                      |                    | Tolls.      | Cargo.  |
|----------------------|----------------------|-----------------------------------------------|----------------------|----------------------|--------------------|-------------|---------|
|                      |                      | United<br>States<br>Canal net.<br>equivalent. | Panama<br>Canal net. | Registered<br>gross. | Registered<br>net. |             |         |
| British.....         | 19                   | 37,748                                        | 46,602               | 60,945               | 36,355             | \$43,240.85 | 21,443  |
| United States.....   | 11                   | 28,786                                        | 34,397               | 46,069               | 28,469             | 35,234.95   | 33,640  |
| Peruvian.....        | 3                    | 4,225                                         | 8,296                | 13,764               | 7,190              | 5,281.25    | 604     |
| Italian.....         | 2                    | 6,071                                         | 8,083                | 10,548               | 6,429              | 7,588.75    | 898     |
| Dutch.....           | 2                    | 3,667                                         | 5,755                | 5,702                | 3,710              | 4,583.75    | 1,702   |
| Chilean.....         | 2                    | 3,608                                         | 6,250                | 7,612                | 4,560              | 4,510.00    | 1,195   |
| French.....          | 1                    | 3,631                                         | 4,166                | 5,818                | 3,712              | 4,538.75    | 118     |
| Spanish.....         | 1                    | 2,232                                         | 2,792                | 3,460                | 2,021              | 2,010.24    | .....   |
| German.....          | 1                    | 1,783                                         | 2,924                | 2,990                | 1,754              | 2,228.75    | 2,500   |
| Norwegian.....       | 1                    | 879                                           | 1,040                | 1,436                | 874                | 1,098.75    | 30      |
| September, 1921..... | 43                   | 92,630                                        | 120,305              | 158,344              | 95,074             | 110,316.04  | 62,130  |
| August, 1921.....    | 48                   | 110,623                                       | 142,593              | 184,947              | 114,033            | 137,723.62  | 93,199  |
| September, 1920..... | 66                   | .....                                         | 219,045              | 292,299              | 177,179            | .....       | 176,578 |

## PACIFIC TO ATLANTIC.

| Nationality.         | No.<br>of<br>vessels | United<br>States<br>Canal net.<br>equivalent. | Panama<br>Canal net. | Registered<br>gross. | Registered<br>net. | Tolls.      | Cargo.  |
|----------------------|----------------------|-----------------------------------------------|----------------------|----------------------|--------------------|-------------|---------|
| British.....         | 18                   | 32,756                                        | 40,829               | 56,628               | 33,829             | \$39,302.02 | 29,044  |
| United States.....   | 13                   | 39,755                                        | 47,479               | 63,037               | 39,679             | 41,248.72   | 25,304  |
| Norwegian.....       | 2                    | 3,968                                         | 4,147                | 5,488                | 3,918              | 4,827.15    | 6,276   |
| Peruvian.....        | 2                    | 2,719                                         | 5,345                | 9,020                | 4,517              | 3,398.75    | 2,842   |
| Japanese.....        | 1                    | 5,513                                         | 6,385                | 9,049                | 6,502              | 4,597.20    | .....   |
| French.....          | 1                    | 3,638                                         | 4,170                | 5,796                | 3,689              | 4,547.50    | 5,210   |
| Italian.....         | 1                    | 3,149                                         | 3,600                | 5,355                | 3,160              | 3,936.25    | 7,460   |
| Dutch.....           | 1                    | 2,518                                         | 2,707                | 3,375                | 2,574              | 3,147.50    | 4,500   |
| Chilean.....         | 1                    | 1,797                                         | 3,068                | 3,814                | 2,288              | 2,246.25    | 985     |
| September, 1921..... | 40                   | 95,813                                        | 117,730              | 161,562              | 100,156            | 107,251.34  | 81,621  |
| August, 1921.....    | 46                   | 116,107                                       | 146,490              | 192,066              | 118,531            | 131,986.74  | 106,174 |
| September, 1920..... | 73                   | .....                                         | 225,095              | 293,529              | 182,332            | .....       | 235,308 |

## CLASSIFICATION OF COMMERCIAL TRAFFIC.

A statement of this month's commercial traffic, classified (1) according to the nationality of the various ships passing through the Panama Canal, and (2) segregating laden and unladen vessels, is shown in the following tabulations:

\* Commercial traffic includes all ocean-going vessels transiting the Panama Canal, excepting vessels owned or chartered by the United States Government.

| Nationality.                                                                                          | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.    |
|-------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|-----------|
| Number and nationality of commercial vessels passing through the Canal:                               |                            |                            |           |
| British.....                                                                                          | 44                         | 31                         | 75        |
| Chilean.....                                                                                          | 2                          | 1                          | 3         |
| Danish.....                                                                                           | 2                          | 1                          | 3         |
| Dutch.....                                                                                            | 4                          | 2                          | 6         |
| French.....                                                                                           | 1                          | 1                          | 2         |
| German.....                                                                                           | 1                          | .....                      | 1         |
| Greek.....                                                                                            | 1                          | .....                      | 1         |
| Italian.....                                                                                          | 2                          | 1                          | 3         |
| Japanese.....                                                                                         | 15                         | 8                          | 23        |
| Norwegian.....                                                                                        | 4                          | 4                          | 8         |
| Peruvian.....                                                                                         | 3                          | 2                          | 5         |
| Spanish.....                                                                                          | 2                          | .....                      | 2         |
| Swedish.....                                                                                          | 1                          | 1                          | 2         |
| United States.....                                                                                    | 46                         | 41                         | 87        |
| Totals, September, 1921.....                                                                          | 128                        | 93                         | 221       |
| Totals, August, 1921.....                                                                             | 120                        | 116                        | 236       |
| Totals, September, 1920.....                                                                          | 125                        | 131                        | 256       |
| United States equivalent net tonnage of commercial vessels passing through the Canal, by nationality: |                            |                            |           |
| British.....                                                                                          | 142,049                    | 86,104                     | 228,153   |
| Chilean.....                                                                                          | 3,608                      | 1,797                      | 5,405     |
| Danish.....                                                                                           | 6,028                      | 4,473                      | 10,501    |
| Dutch.....                                                                                            | 13,287                     | 6,992                      | 20,279    |
| French.....                                                                                           | 3,631                      | 3,638                      | 7,269     |
| German.....                                                                                           | 1,783                      | .....                      | 1,783     |
| Greek.....                                                                                            | 3,317                      | .....                      | 3,317     |
| Italian.....                                                                                          | 6,071                      | 3,149                      | 9,220     |
| Japanese.....                                                                                         | 63,300                     | 33,280                     | 96,580    |
| Norwegian.....                                                                                        | 7,691                      | 11,955                     | 19,646    |
| Peruvian.....                                                                                         | 4,225                      | 2,719                      | 6,944     |
| Spanish.....                                                                                          | 5,263                      | .....                      | 5,263     |
| Swedish.....                                                                                          | 2,303                      | 3,430                      | 5,733     |
| United States.....                                                                                    | 171,694                    | 156,957                    | 328,651   |
| Totals, September, 1921.....                                                                          | 434,250                    | 314,494                    | 748,744   |
| Totals, August, 1921.....                                                                             | 394,295                    | 398,147                    | 792,442   |
| Totals, September, 1920.....                                                                          | 417,500                    | 415,242                    | 832,742   |
| Panama Canal net tonnage of commercial vessels passing through the Canal, by nationality:             |                            |                            |           |
| British.....                                                                                          | 171,616                    | 106,291                    | 277,907   |
| Chilean.....                                                                                          | 6,250                      | 3,068                      | 9,318     |
| Danish.....                                                                                           | 8,566                      | 5,588                      | 14,154    |
| Dutch.....                                                                                            | 17,130                     | 9,618                      | 26,748    |
| French.....                                                                                           | 4,166                      | 4,170                      | 8,336     |
| German.....                                                                                           | 2,924                      | .....                      | 2,924     |
| Greek.....                                                                                            | 3,382                      | .....                      | 3,382     |
| Italian.....                                                                                          | 8,083                      | 3,600                      | 11,683    |
| Japanese.....                                                                                         | 69,473                     | 37,120                     | 106,593   |
| Norwegian.....                                                                                        | 10,519                     | 13,795                     | 24,314    |
| Peruvian.....                                                                                         | 8,296                      | 5,345                      | 13,641    |
| Spanish.....                                                                                          | 6,229                      | .....                      | 6,229     |
| Swedish.....                                                                                          | 3,969                      | 5,533                      | 9,502     |
| United States.....                                                                                    | 210,031                    | 200,375                    | 410,406   |
| Totals, September, 1921.....                                                                          | 530,634                    | 394,503                    | 925,137   |
| Totals, August, 1921.....                                                                             | 487,219                    | 478,057                    | 965,276   |
| Totals, September, 1920.....                                                                          | 504,349                    | 504,436                    | 1,008,785 |
| Registered gross tonnage of commercial vessels passing through the Canal, by nationality:             |                            |                            |           |
| British.....                                                                                          | 216,653                    | 138,122                    | 354,775   |
| Chilean.....                                                                                          | 7,612                      | 3,814                      | 11,426    |
| Danish.....                                                                                           | 9,668                      | 7,014                      | 16,682    |
| Dutch.....                                                                                            | 20,955                     | 10,685                     | 31,640    |
| French.....                                                                                           | 5,818                      | 5,796                      | 11,614    |
| German.....                                                                                           | 2,990                      | .....                      | 2,990     |
| Greek.....                                                                                            | 3,507                      | .....                      | 3,507     |
| Italian.....                                                                                          | 10,548                     | 5,355                      | 15,903    |
| Japanese.....                                                                                         | 92,217                     | 49,043                     | 141,260   |
| Norwegian.....                                                                                        | 12,548                     | 17,841                     | 30,389    |
| Peruvian.....                                                                                         | 13,764                     | 9,020                      | 22,784    |
| Spanish.....                                                                                          | 8,108                      | .....                      | 8,108     |



| Nationality.                                                                                            | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.       |
|---------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|--------------|
| Registered gross tonnage of commercial vessels passing through the Canal,<br>by nationality.—Continued: |                            |                            |              |
| Swedish.....                                                                                            | 3,802                      | 5,554                      | 9,356        |
| United States.....                                                                                      | 260,897                    | 245,889                    | 506,786      |
| Totals, September, 1921.....                                                                            | 669,087                    | 498,133                    | 1,167,220    |
| Totals, August, 1921.....                                                                               | 607,852                    | 611,965                    | 1,219,817    |
| Totals, September, 1920.....                                                                            | 647,033                    | 646,437                    | 1,293,470    |
| Registered net tonnage of commercial vessels passing through the Canal,<br>by nationality:              |                            |                            |              |
| British.....                                                                                            | 135,319                    | 86,028                     | 221,347      |
| Chilean.....                                                                                            | 4,560                      | 2,288                      | 6,848        |
| Danish.....                                                                                             | 6,100                      | 4,470                      | 10,570       |
| Dutch.....                                                                                              | 13,358                     | 7,069                      | 20,427       |
| French.....                                                                                             | 3,712                      | 3,689                      | 7,401        |
| German.....                                                                                             | 1,757                      | .....                      | 1,757        |
| Greek.....                                                                                              | 2,091                      | .....                      | 2,091        |
| Italian.....                                                                                            | 6,429                      | 3,160                      | 9,589        |
| Japanese.....                                                                                           | 61,690                     | 33,506                     | 95,196       |
| Norwegian.....                                                                                          | 7,581                      | 11,681                     | 19,262       |
| Peruvian.....                                                                                           | 7,190                      | 4,517                      | 11,707       |
| Spanish.....                                                                                            | 4,898                      | .....                      | 4,898        |
| Swedish.....                                                                                            | 2,839                      | 4,225                      | 7,064        |
| United States.....                                                                                      | 169,871                    | 155,546                    | 325,417      |
| Totals, September, 1921.....                                                                            | 427,395                    | 316,179                    | 743,574      |
| Totals, August, 1921.....                                                                               | 387,071                    | 393,874                    | 780,945      |
| Totals, September, 1920.....                                                                            | 404,946                    | 412,864                    | 817,810      |
| Tolls levied against commercial vessels passing through the Canal, by<br>nationality:                   |                            |                            |              |
| British.....                                                                                            | \$159,184.02               | \$105,844.27               | \$265,028.29 |
| Chilean.....                                                                                            | 4,510.00                   | 2,246.25                   | 6,756.25     |
| Danish.....                                                                                             | 6,671.68                   | 5,591.25                   | 12,262.93    |
| Dutch.....                                                                                              | 14,766.86                  | 8,740.00                   | 23,506.86    |
| French.....                                                                                             | 4,538.75                   | 4,547.50                   | 9,086.25     |
| German.....                                                                                             | 2,228.75                   | .....                      | 2,228.75     |
| Greek.....                                                                                              | 4,058.40                   | .....                      | 4,058.40     |
| Italian.....                                                                                            | 7,583.75                   | 3,936.25                   | 11,520.00    |
| Japanese.....                                                                                           | 76,548.28                  | 38,946.15                  | 115,494.43   |
| Norwegian.....                                                                                          | 9,369.36                   | 14,810.90                  | 24,180.26    |
| Peruvian.....                                                                                           | 5,281.25                   | 3,398.75                   | 8,680.00     |
| Spanish.....                                                                                            | 5,798.99                   | .....                      | 5,798.99     |
| Swedish.....                                                                                            | 2,857.65                   | 4,287.50                   | 7,145.18     |
| United States.....                                                                                      | 210,390.84                 | 185,859.11                 | 396,249.95   |
| Totals, September, 1921.....                                                                            | 513,793.61                 | 378,207.93                 | 892,001.54   |
| Totals, August, 1921.....                                                                               | 465,017.24                 | 490,363.54                 | 955,380.78   |
| Totals, September, 1920.....                                                                            | 494,954.82                 | 515,195.81                 | 1,010,150.63 |
| Tons of cargo carried by commercial vessels passing through the Canal, by<br>nationality:               |                            |                            |              |
| British.....                                                                                            | 95,349                     | 114,126                    | 209,475      |
| Chilean.....                                                                                            | 1,195                      | 985                        | 2,180        |
| Danish.....                                                                                             | 6,500                      | 9,265                      | 15,765       |
| Dutch.....                                                                                              | 3,285                      | 13,334                     | 16,619       |
| French.....                                                                                             | 118                        | 5,210                      | 5,328        |
| German.....                                                                                             | 2,500                      | .....                      | 2,500        |
| Italian.....                                                                                            | 898                        | 7,460                      | 8,358        |
| Japanese.....                                                                                           | 28,366                     | 48,348                     | 76,714       |
| Norwegian.....                                                                                          | 30                         | 22,185                     | 22,215       |
| Peruvian.....                                                                                           | 604                        | 2,842                      | 3,446        |
| Swedish.....                                                                                            | .....                      | 8,193                      | 8,193        |
| United States.....                                                                                      | 161,875                    | 222,226                    | 384,101      |
| Totals, September, 1921.....                                                                            | 300,720                    | 454,174                    | 754,894      |
| Totals, August, 1921.....                                                                               | 317,970                    | 521,303                    | 839,273      |
| Totals, September, 1920.....                                                                            | 444,217                    | 565,340                    | 1,009,557    |
| A further classification of the above commercial traffic:                                               |                            |                            |              |
| Cargo-carrying vessels—                                                                                 |                            |                            |              |
| Laden.....                                                                                              | 90                         | 86                         | 176          |
| Ballast (tolls at laden rate on account of excess fuel).....                                            | 15                         | .....                      | 15           |
| Ballast.....                                                                                            | 20                         | 7                          | 27           |
| Passenger ship.....                                                                                     | 1                          | .....                      | 1            |
| Yachts.....                                                                                             | 2                          | .....                      | 2            |
| Total commercial vessels.....                                                                           | 128                        | 93                         | 221          |

| Nationality.                                                 | Atlantic to Pacific. | Pacific to Atlantic. | Total.       |
|--------------------------------------------------------------|----------------------|----------------------|--------------|
| Tonnage of above vessels, Panama Canal net measurement:      |                      |                      |              |
| Cargo-carrying vessels—                                      |                      |                      |              |
| Laden.....                                                   | 370,877              | 355,730              | 726,607      |
| Ballast (tolls at laden rate on account of excess fuel)..... | 67,220               |                      | 67,220       |
| Ballast.....                                                 | 83,847               | 38,773               | 122,620      |
| Passenger ship.....                                          | 8,252                |                      | 8,252        |
| Yachts.....                                                  | 438                  |                      | 438          |
| Total Panama Canal net tonnage.....                          | 530,634              | 394,503              | 925,137      |
| Tolls paid on above vessels:                                 |                      |                      |              |
| Cargo-carrying vessels—                                      |                      |                      |              |
| Laden.....                                                   | \$369,994.75         | \$350,083.50         | \$720,078.25 |
| Ballast (tolls at laden rate on account of excess fuel)..... | 74,391.20            |                      | 74,391.20    |
| Ballast.....                                                 | 60,745.80            | 28,124.43            | 88,870.23    |
| Passenger ship.....                                          | 8,333.75             |                      | 8,333.75     |
| Yachts.....                                                  | 328.11               |                      | 328.11       |
| Totals.....                                                  | 513,793.61           | 378,207.93           | 892,001.54   |
| Motor ships through the Canal.....                           | 5                    | 6                    | 11           |
| Panama Canal net tonnage of above.....                       | 12,710               | 21,814               | 34,524       |
| Cargo carried by commercial vessels.....                     | 300,720              | 454,174              | 754,894      |
| Average rate of tolls per cargo ton <sup>1</sup> .....       | \$1.23               | \$0.77               | \$0.95       |
| Average rate of tolls per cargo ton <sup>2</sup> .....       | 1.71                 | .83                  | 1.18         |

<sup>1</sup> Laden vessels only.<sup>2</sup> Including cargo-carrying vessels in ballast.

Commercial ships without cargo transiting the Canal, exclusive of yachts and other noncargo-carrying vessels:

## ATLANTIC TO PACIFIC.

| Nationality.       | Ballast rate. |             | Laden rate on account of excess fuel. |            |
|--------------------|---------------|-------------|---------------------------------------|------------|
|                    | No. of ships. | Tolls.      | No. of ships.                         | Tolls.     |
| British.....       | 11            | \$37,994.52 | 1                                     | \$4,218.75 |
| Danish.....        | 1             | 2,461.68    |                                       |            |
| Dutch.....         | 1             | 3,429.36    |                                       |            |
| Japanese.....      | 1             | 3,070.08    | 10                                    | 54,874.05  |
| Norwegian.....     | 1             | 819.36      | 2                                     | 7,451.25   |
| Spanish.....       | 1             | 2,010.24    | 1                                     | 3,783.75   |
| Sweish.....        | 1             | 2,857.65    |                                       |            |
| United States..... | 3             | 8,102.88    |                                       |            |
| Greek.....         |               |             | 1                                     | 4,058.40   |
| Totals.....        | 20            | 60,745.80   | 15                                    | 74,391.20  |

## ROUTING OF ABOVE VESSELS.

|                                                                 | No. of vessels. |
|-----------------------------------------------------------------|-----------------|
| Europe to west coast of United States.....                      | 15              |
| United States coastwise.....                                    | 10              |
| Europe to west coast of Canada.....                             | 2               |
| East coast of United States to west coast of Canada.....        | 2               |
| Cristobal to west coast of South America.....                   | 2               |
| West Indies to west coast of United States.....                 | 2               |
| East coast of United States to west coast of South America..... | 1               |
| East coast of United States to Australasia.....                 | 1               |
| Total vessels without cargo, Atlantic to Pacific.....           | 35              |

## PACIFIC TO ATLANTIC.

| Nationality.       | Ballast rate. |            | Laden rate on account of excess fuel. |        |
|--------------------|---------------|------------|---------------------------------------|--------|
|                    | No. of ships. | Tolls.     | No. of ships.                         | Tolls. |
| British.....       | 1             | \$3,273.12 |                                       |        |
| Japanese.....      | 1             | 4,597.00   |                                       |        |
| United States..... | 5             | 20,254.11  |                                       |        |
| Totals.....        | 7             | 28,124.43  |                                       |        |

## ROUTING OF ABOVE VESSELS.

|                                                                 | No. of<br>vessels. |
|-----------------------------------------------------------------|--------------------|
| West coast of United States to east coast of Mexico.....        | 2                  |
| West coast of South America to east coast of Mexico.....        | 2                  |
| Far East to east coast of Mexico.....                           | 1                  |
| West coast of United States to east coast of United States..... | 1                  |
| Balboa, C. Z. to east coast of United States.....               | 1                  |
| Total vessels without cargo, Pacific to Atlantic.....           | 7                  |

## CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of, and amount of cargo carried by United States Government vessels passing through the Panama Canal during the month of September, 1921. This traffic passes through the Panama Canal free of tolls; if tolls had been assessed against these vessels, however, at commercial rates, the amounts collected would have been as indicated below:

In this statement is also included the number and tonnage of launches transiting the Canal, together with the tolls collected thereon. Although paying tolls they are included in the noncommercial traffic, being small nonseagoing vessels of under 10 tons measurement.

|                                                                            | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|----------------------------------------------------------------------------|----------------------------|----------------------------|-------------|
| United States Navy vessels:                                                |                            |                            |             |
| Gunboats.....                                                              | 2                          | 4                          | 6           |
| Fuel and supply ships.....                                                 | 3                          | 1                          | 4           |
| Submarines.....                                                            | 5                          | 2                          | 7           |
| Tugs.....                                                                  | 3                          | 3                          | 6           |
| Submarine chasers.....                                                     | 2                          | 3                          | 5           |
| Minesweeper.....                                                           | 1                          |                            | 1           |
| Destroyer.....                                                             | 1                          |                            | 1           |
| Transport.....                                                             |                            | 1                          | 1           |
| Barges.....                                                                |                            | 4                          | 4           |
| Totals.....                                                                | 17                         | 18                         | 35          |
| United States Army vessels:                                                |                            |                            |             |
| Mine layer.....                                                            | 1                          |                            | 1           |
| Tug.....                                                                   | 1                          |                            | 1           |
| Totals.....                                                                | 2                          |                            | 2           |
| Total vessels through Canal free of tolls.....                             | 19                         | 18                         | 37          |
| Tonnage of above vessels:                                                  |                            |                            |             |
| Panama Canal net tonnage—                                                  |                            |                            |             |
| Naval vessels.....                                                         | 6,083                      | 7,317                      | 13,400      |
| Army vessels.....                                                          | 449                        |                            | 449         |
| Total Panama Canal net tonnage.....                                        | 6,532                      | 7,317                      | 13,849      |
| Displacement tonnage—                                                      |                            |                            |             |
| Naval vessels.....                                                         | 12,244                     | 12,852                     | 25,096      |
| Cargo carried by above vessels:                                            |                            |                            |             |
| Naval vessels.....                                                         | 7,915                      | 50                         | 7,965       |
| Tolls which above vessels would have paid if assessed at commercial rates: |                            |                            |             |
| Naval vessels.....                                                         | \$13,421.60                | \$13,702.56                | \$27,124.16 |
| Army vessels.....                                                          | 323.28                     |                            | 323.28      |
| Totals.....                                                                | 13,744.88                  | 13,702.56                  | 27,447.44   |
| Launches through the Canal.....                                            | 2                          |                            | 2           |
| Panama Canal net tonnage of above.....                                     | 4                          |                            | 4           |
| Tolls collected on above.....                                              | \$3.45                     |                            | \$3.45      |

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of September, 1921, are shown in the following tabulations:

|                                       | Cristobal. | Balboa. | Total. |
|---------------------------------------|------------|---------|--------|
| Vessels passing through the Canal:    |            |         |        |
| Commercial.....                       | 128        | 93      | 221    |
| United States Government vessels..... | 19         | 18      | 37     |
| Launches and miscellaneous craft..... | 2          |         | 2      |
| Total vessels and craft.....          | 149        | 111     | 260    |

|                                                                          | Cristobal. | Balboa.   | Total.    |
|--------------------------------------------------------------------------|------------|-----------|-----------|
| Tonnage of above vessels:                                                |            |           |           |
| Panama Canal net measurement—                                            |            |           |           |
| Commercial vessels                                                       | 530,634    | 394,503   | 925,137   |
| United States Government vessels                                         | 6,532      | 7,317     | 13,849    |
| Launches and miscellaneous craft                                         | 4          |           | 4         |
| Total Panama Canal net tonnage                                           | 537,170    | 401,820   | 938,990   |
| Displacement tonnage—                                                    |            |           |           |
| Naval vessels                                                            | 12,244     | 12,852    | 25,096    |
| Cargo carried by above vessels:                                          |            |           |           |
| Commercial                                                               | 300,720    | 454,174   | 754,894   |
| Navy vessels                                                             | 7,915      | 50        | 7,965     |
| Total cargo through the Canal                                            | 308,635    | 454,224   | 762,859   |
| Deck cargo included in the above                                         | 891        | 2,620     | 3,511     |
| Vessels entering port but not transiting Canal:                          |            |           |           |
| Number entered                                                           | 50         | 7         | 57        |
| Number cleared                                                           | 51         | 7         | 58        |
| Registered gross tonnage of above:                                       |            |           |           |
| Entered                                                                  | 239,958    | 28,732    | 268,690   |
| Cleared                                                                  | 242,503    | 32,972    | 275,475   |
| Registered net tonnage of above:                                         |            |           |           |
| Entered                                                                  | 141,806    | 18,041    | 159,847   |
| Cleared                                                                  | 143,460    | 19,940    | 163,400   |
| Vessels transiting the Canal and handling passengers or cargo at port:   |            |           |           |
| Number entered                                                           | 45         | 46        | 91        |
| Number cleared                                                           | 47         | 46        | 93        |
| Registered gross tonnage of above:                                       |            |           |           |
| Entered                                                                  | 192,603    | 190,733   | 383,336   |
| Cleared                                                                  | 201,833    | 190,733   | 392,566   |
| Registered net tonnage of above:                                         |            |           |           |
| Entered                                                                  | 113,683    | 109,945   | 223,628   |
| Cleared                                                                  | 119,124    | 109,945   | 229,069   |
| All vessels entering and clearing, including those transiting the Canal: |            |           |           |
| Number entered                                                           | 276        | 237       | 513       |
| Number cleared                                                           | 275        | 234       | 509       |
| Registered gross tonnage of above:                                       |            |           |           |
| Entered                                                                  | 1,457,188  | 1,226,310 | 2,683,498 |
| Cleared                                                                  | 1,448,880  | 1,246,069 | 2,694,949 |
| Registered net tonnage of above:                                         |            |           |           |
| Entered                                                                  | 920,907    | 780,196   | 1,701,103 |
| Cleared                                                                  | 914,135    | 800,949   | 1,715,084 |
| Transit cargo arriving                                                   | 787,253    | 783,382   | 1,570,635 |
| Transit cargo clearing                                                   | 777,157    | 768,684   | 1,545,841 |
| Local cargo arriving                                                     | 33,000     | 16,309    | 49,309    |
| Local cargo shipped                                                      | 2,519      | 258       | 2,777     |
| Cargo received for transshipment                                         | 17,510     | 10,024    | 27,534    |
| Cargo transhipped                                                        | 31,095     |           | 31,095    |
| Cargo handled by Receiving and Forwarding Agency, Panama Railroad:       |            |           |           |
| Received                                                                 | 32,182     | 1,468     | 33,650    |
| Dispatched                                                               | 20,424     | 245       | 20,669    |
| Rehanded                                                                 | 2,143      | 69        | 2,212     |
| Stevedored                                                               | 20,913     | 340       | 21,253    |
| Vessels supplied with bunker coal:                                       |            |           |           |
| Commercial other than Panama Railroad                                    | 57         | 7         | 64        |
| Panama Railroad vessels                                                  | 3          |           | 3         |
| United States Army vessels                                               | 2          | 1         | 3         |
| Total vessels supplied with bunker coal                                  | 62         | 8         | 70        |
| Coal supplied to above vessels:                                          |            |           |           |
| Commercial, other than Panama Railroad                                   | 11,145     | 1,365     | 12,510    |
| Panama Railroad vessels                                                  | 631        |           | 631       |
| United States Army vessels                                               | 84         | 32        | 116       |
| Total coal supplied to vessels                                           | 11,860     | 1,397     | 13,257    |
| Coal issues, miscellaneous:                                              |            |           |           |
| Panama Canal departments                                                 | 472        | 302       | 774       |
| Panama Railroad, excepting vessels                                       | 585        | 46        | 631       |
| United States Army, excepting vessels                                    | 520        |           | 520       |
| Individuals and companies                                                | 322        |           | 322       |



|                                                                     | Cristobal.  | Balboa.     | Total.      |
|---------------------------------------------------------------------|-------------|-------------|-------------|
| Coal issues, miscellaneous—continued.                               |             |             |             |
| Total issues from Panama Canal deposits:                            |             |             |             |
| September, 1921..... tons..                                         | 13,759      | 1,745       | 15,504      |
| August, 1921..... tons..                                            | 21,328      | 1,364       | 22,692      |
| September, 1920..... tons..                                         | 36,861      | 6,021       | 42,882      |
| Coal on hand, October 1, 1921..... tons..                           | 126,843     | 35,359      | 162,202     |
| Coal on hand, September 1, 1921..... tons..                         | 125,114     | 25,066      | 150,180     |
| Coal received during September, 1921..... tons..                    | 15,488      | 12,038      | 27,526      |
| <i>United States Navy coal account.</i>                             |             |             |             |
| Issued to U. S. Navy, including vessels..... tons..                 | 902         | 1,127       | 2,029       |
| Coal on hand, October 1, 1921..... tons..                           | 65,958      | 8,149       | 74,107      |
| Coal on hand, September 1, 1921..... tons..                         | 60,723      | 9,276       | 69,999      |
| Coal received during September, 1921..... tons..                    | 6,137       |             | 6,137       |
| Commercial vessel supplied with fuel oil..... tons..                | 1           |             | 1           |
| Oil supplied above vessel..... bbls..                               | 2,354       |             | 2,354       |
| Fuel oil issues, miscellaneous:                                     |             |             |             |
| To Panama Canal departments..... bbls..                             | 5,563       | 13,055      | 18,618      |
| To Panama Railroad..... bbls..                                      | 210         |             | 210         |
| To Army and Navy..... bbls..                                        | 204         |             | 204         |
| Total issues..... bbls..                                            | 8,331       | 13,055      | 21,386      |
| Fuel oil on hand, October 1, 1921..... bbls..                       | 70,392      | 72,931      | 143,323     |
| Fuel oil on hand, September 1, 1921..... bbls..                     | 79,838      | 85,461      | 165,299     |
| Shortage on inventory..... bbls..                                   | 1,115       |             | 1,115       |
| Taken up on inventory..... bbls..                                   |             | 525         | 525         |
| Diesel oil issued during the month..... bbls..                      | 27          |             | 27          |
| Diesel oil on hand, October 1, 1921..... bbls..                     | 51,179      | 966         | 52,145      |
| Diesel oil on hand, September 1, 1921..... bbls..                   | 51,127      | 966         | 52,093      |
| Taken up on inventory..... bbls..                                   | 79          |             | 79          |
| Oil pumped for individuals and companies..... bbls..                | 309,824     | 45,347      | 355,171     |
| Miscellaneous transfer..... bbls..                                  | 10,307      |             | 10,307      |
| Total oil handled..... bbls..                                       | 328,489     | 58,401      | 386,890     |
| Vessels furnished with commissary supplies:                         |             |             |             |
| Commercial, other than Panama Railroad.....                         | 47          | 27          | 74          |
| Panama Railroad.....                                                | 8           | 1           | 9           |
| United States Government.....                                       | 13          | 18          | 31          |
| Total vessels furnished supplies.....                               | 68          | 46          | 114         |
| Commissary sales to commercial vessels:                             |             |             |             |
| Ice.....                                                            | \$1,656.48  | \$480.20    | \$2,136.68  |
| Wholesale groceries.....                                            | 1,914.00    | 329.25      | 2,243.25    |
| Wholesale cold storage.....                                         | 12,975.50   | 1,920.50    | 14,896.00   |
| Laundry.....                                                        | 437.17      | 2,773.23    | 3,210.40    |
| Miscellaneous.....                                                  | 512.41      | 218.19      | 730.60      |
| Totals.....                                                         | 17,495.56   | 5,721.37    | 23,216.93   |
| Commissary sales to Panama Railroad vessels:                        |             |             |             |
| Ice.....                                                            | \$105.00    |             | \$105.00    |
| Wholesale groceries.....                                            | 1,442.34    | \$162.89    | 1,605.23    |
| Wholesale cold storage.....                                         | 3,448.10    | 711.02      | 4,159.12    |
| Laundry.....                                                        | 85.33       |             | 85.33       |
| Miscellaneous.....                                                  | 232.30      |             | 232.30      |
| Totals.....                                                         | 5,313.07    | 873.91      | 6,186.98    |
| Commissary sales to United States Government vessels:               |             |             |             |
| Ice.....                                                            | \$260.61    | \$284.25    | \$544.86    |
| Wholesale groceries.....                                            | 765.64      | 2,595.49    | 3,361.13    |
| Wholesale cold storage.....                                         | 3,236.57    | 9,347.30    | 12,583.87   |
| Laundry.....                                                        | 256.39      | 8.82        | 265.21      |
| Miscellaneous.....                                                  | 212.03      | 365.53      | 577.56      |
| Totals.....                                                         | 4,731.24    | 12,601.39   | 17,332.63   |
| Total commissary sales to all vessels:                              |             |             |             |
| September, 1921.....                                                | \$27,539.87 | \$19,196.67 | \$46,736.54 |
| August, 1921.....                                                   | 38,479.01   | 64,744.13   | 103,223.14  |
| September, 1920.....                                                | 85,557.52   | 72,508.62   | 158,066.14  |
| Admeasurement certificates:                                         |             |             |             |
| United States equivalent issued or made.....                        | 37          | 5           | 42          |
| Measured for Panama Canal net tonnage.....                          | 15          | 5           | 20          |
| United States equivalent or Panama Canal net tonnage corrected..... | 36          | 9           | 45          |

|                                                     | Cristobal.  | Balboa.    | Total.      |
|-----------------------------------------------------|-------------|------------|-------------|
| Services of harbor equipment:                       |             |            |             |
| Tugs, total operating hours                         | 408         | 262        | 670         |
| Launches, total operating hours                     | 1,162       | 1,092      | 2,254       |
| Vessels repaired at Panama Canal shops:             |             |            |             |
| Commercial                                          | 31          | 14         | 45          |
| United States Government                            | 4           | 5          | 9           |
| Canal equipment                                     | 12          | 12         | 24          |
| Vessels dry-docked:                                 |             |            |             |
| Commercial                                          | 2           | 1          | 3           |
| United States Government                            | 3           | 5          | 8           |
| Canal equipment                                     | 6           | 12         | 18          |
| Services to American vessels:                       |             |            |             |
| Crews shipped                                       | 3           |            | 3           |
| Crews paid off                                      | 3           |            | 3           |
| Shipping articles written                           | 3           |            | 3           |
| Marine notes of protest noted                       | 16          | 2          | 18          |
| Services to American seamen:                        |             |            |             |
| Seamen shipped                                      | 254         | 74         | 328         |
| Seamen discharged                                   | 297         | 43         | 340         |
| Seamen lodged and subsisted                         | 8           | 10         | 18          |
| Seaman deceased                                     | 1           |            | 1           |
| Seamen repatriated                                  | 11          | 8          | 19          |
| Seamen deserted                                     | 20          | 8          | 28          |
| Wages of American seamen:                           |             |            |             |
| Total wages earned                                  | \$13,292.07 | \$4,041.94 | \$17,334.01 |
| Deductions approved by Deputy Shipping Commissioner | 2,020.00    | 1,417.63   | 3,437.63    |
| Balance due seamen                                  | 11,272.07   | 2,624.31   | 13,896.38   |
| Paid to seamen                                      | 9,128.00    | 2,225.10   | 11,353.10   |
| Received on deposit for seamen                      | 2,144.07    | 399.21     | 2,543.28    |
| Clearances issued                                   | 138         | 133        | 271         |
| Bills of health issued                              | 137         | 135        | 272         |
| <i>Movement of passengers.</i>                      |             |            |             |
| Disembarking at Canal ports:                        |             |            |             |
| First class—                                        |             |            |             |
| From Atlantic ports                                 | 908         |            | 908         |
| From Pacific ports                                  | 143         | 75         | 218         |
| Total, first class                                  | 1,051       | 75         | 1,126       |
| Other than first class—                             |             |            |             |
| From Atlantic ports                                 | 942         | 5          | 947         |
| From Pacific ports                                  | 95          | 198        | 293         |
| Total, other than first class                       | 1,037       | 203        | 1,240       |
| Total, disembarking at Canal ports                  | 2,088       | 278        | 2,366       |
| Embarking from Canal ports:                         |             |            |             |
| First class—                                        |             |            |             |
| For Atlantic ports                                  | 1,096       |            | 1,096       |
| For Pacific ports                                   | 178         | 97         | 275         |
| Total, first class                                  | 1,274       | 97         | 1,371       |
| Other than first class—                             |             |            |             |
| For Atlantic ports                                  | 1,600       |            | 1,600       |
| For Pacific ports                                   | 78          | 67         | 145         |
| Total, other than first class                       | 1,678       | 67         | 1,745       |
| Total, embarking from Canal ports                   | 2,952       | 164        | 3,116       |
| Remaining on board vessels:                         |             |            |             |
| First class—                                        |             |            |             |
| Bound from Atlantic to Pacific ports                | 422         | 564        | 986         |
| Bound from Pacific to Atlantic ports                | 528         | 671        | 1,199       |
| Bound from Atlantic to Atlantic ports               | 230         |            | 230         |
| Bound from Pacific to Pacific ports                 |             | 14         | 14          |
| Total, first class                                  | 1,180       | 1,249      | 2,429       |

|                                            | Cristobal. | Balboa. | Total. |
|--------------------------------------------|------------|---------|--------|
| Remaining on board vessels—Continued:      |            |         |        |
| Other than first class—                    |            |         |        |
| Bound from Atlantic to Pacific ports.....  | 2,115      | 2,112   | 4,227  |
| Bound from Pacific to Atlantic ports.....  | 280        | 430     | 710    |
| Bound from Atlantic to Atlantic ports..... | 124        |         | 124    |
| Bound from Pacific to Pacific ports.....   |            | 105     | 105    |
| Total, other than first class.....         | 2,519      | 2,647   | 5,166  |
| Total remaining on board.....              | 3,699      | 3,896   | 7,595  |
| Total passengers arriving.....             | 5,787      | 4,174   | 9,961  |
| Total passengers departing.....            | 6,651      | 4,060   | 10,711 |
| Arrivals in excess of departures.....      |            | 114     |        |
| Departures in excess of arrivals.....      | 864        |         |        |
| Net excess of departures.....              |            |         | 750    |

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks, and the consumption of water for lockages, for the month of September, 1921, as compared with that of the preceding month, and of the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                                      | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|--------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                      | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                           | 91          | 121    | 212    | 9              | 4      | 13     | 225          |
| Pedro Miguel.....                    | 92          | 126    | 218    | 14             | 15     | 29     | 247          |
| Miraflores.....                      | 91          | 124    | 215    | 14             | 14     | 28     | 243          |
| Total lockages, September, 1921..... | 274         | 371    | 645    | 37             | 33     | 70     | 715          |
| Total lockages, August, 1921.....    | 340         | 345    | 685    | 42             | 68     | 110    | 795          |
| Total lockages, September, 1920..... | 378         | 366    | 744    |                |        | 74     | 818          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                     | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|-------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                     | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                          | 94          | 130    | 224    | 25             | 27     | 52     | 276          |
| Pedro Miguel.....                   | 91          | 127    | 218    | 33             | 37     | 70     | 288          |
| Miraflores.....                     | 91          | 127    | 218    | 31             | 36     | 67     | 285          |
| Total vessels, September, 1921..... | 276         | 384    | 660    | 89             | 100    | 189    | 849          |
| Total vessels, August, 1921.....    | 359         | 363    | 722    | 90             | 161    | 251    | 973          |
| Total vessels, September, 1920..... | 399         | 390    | 789    |                |        | 144    | 933          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                                  | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------------|--------|---------------|-------------|
| Army and Navy vessels.....       | 44     | 42            | 42          |
| Canal equipment.....             | 8      | 28            | 25          |
| Total noncommercial vessels..... | 52     | 70            | 67          |

The total consumption of water for lockages, loss in leakage, and for maintenance was as follows:

|                                         | Gatun.                            | Pedro Migue'.                     | Miraflores.                       |
|-----------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Lockages.....                           | <i>Cubic feet.</i><br>858,920,000 | <i>Cubic feet.</i><br>825,290,000 | <i>Cubic feet.</i><br>748,560,000 |
| Leakage.....                            | 20,000,000                        | 15,000,000                        | 67,000,000                        |
| Total consumption, September, 1921..... | 878,920,000                       | 840,290,000                       | 815,560,000                       |
| Total consumption, August, 1921.....    | 955,490,000                       | 875,430,000                       | 891,700,000                       |
| Total consumption, September, 1920..... | 947,800,000                       | 1,025,510,000                     | 958,870,000                       |

## METEOROLOGY AND HYDROGRAPHY.

The rainfall over the Canal Zone and immediate vicinity was generally slightly below normal. Totals ranged from 3.27 inches at Balboa Heights to 15.69 inches at Monte Lirio. The greatest amount of rainfall recorded on any one day was 3.07 inches at Brazos Brook on the 16th. The estimated rainfall over Gatun Lake watershed area was 11.98 inches, compared with an 11-year mean of 11.66 inches; while over the Chagres River watershed, or above Alhajuela, it was 11.61 inches, compared with a 20-year mean of 12.46 inches.

The discharge of the Chagres River at Alhajuela was 3,135 c. f. s., being 2 per cent below the 20-year September mean of 3,187 c. f. s. The maximum discharge for the month of September of record was 4,732 c. f. s. in 1917, and the minimum September discharge was 1,722 c. f. s. in 1905. The maximum momentary discharge for the month was 17,750 c. f. s. at elevation 99.57 feet on the 1st.

The Gatun Lake watershed total yield for the month was 9,457 c. f. s., being 9 per cent above the 11-year September mean of 8,712 c. f. s. The maximum total yield for the month of September of record was 11,946 c. f. s. in 1917, while the minimum total yield was 4,703 c. f. s. in 1911. The net yield for the month was 8,995 c. f. s., which is 10 per cent above the September average yield of 8,176 c. f. s. The lake varied in elevation from 85.81 on the 23d to 85.40 feet on the 21st.

The draft on the lake for lockages and power was 2,182 c. f. s., compared with 2,234 c. f. s. for last month, and 2,473 c. f. s. for September, 1920. The ratio of water expended for power and lockages was 2.35 to 1. A total of 443.5 spillway gate hours were necessary to control the lake during the month.

Gamboa pump station and Brazos Brook reservoir drew 38.2 and 35.4 million cubic feet, respectively, from the lake.

Miraflores Lake varied in elevation from 54.30 feet to 52.47 feet, and ended at elevation 53.77 feet midnight the 30th.

Temperature records for the month of September are given below:

| Station.            | Maximum. | Minimum. | Monthly mean. |
|---------------------|----------|----------|---------------|
| Balboa Heights..... | 91       | 71       | 79.6          |
| Gamboa .....        | 89       | 71       | 79.2          |
| Alhajuela .....     | 91       | 68       | 78.5          |
| Gatun .....         | 89       | 72       | 80.3          |
| Colon .....         | 91       | 72       | 81.5          |

The following gives a comparison of the monthly rainfall by sections for September, 1921, and September, 1920:

| Section.      | Rainfall.      |                | Rainy days. |       |
|---------------|----------------|----------------|-------------|-------|
|               | 1921.          | 1920.          | 1921.       | 1920. |
|               | <i>Inches.</i> | <i>Inches.</i> |             |       |
| Pacific.....  | 5.64           | 11.74          | 23          | 22    |
| Central.....  | 11.75          | 12.20          | 24          | 23    |
| Atlantic..... | 11.38          | 7.94           | 24          | 22    |

A slight tremor from a distant disturbance was recorded on the 10th of the month, beginning at 11.22 p. m., and ending at 1.20 a. m., of the 11th. The tremor was so slight that no estimate could be made as to the distance or direction of the epicenter.

## ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., is shown in comparative form, in the following tabulation:

|                                                                          | September, 1921. | August, 1921. | September, 1920. |
|--------------------------------------------------------------------------|------------------|---------------|------------------|
| Gross output, KWH:                                                       |                  |               |                  |
| Gatun hydroelectric station.....                                         | 5,198,300        | 5,522,900     | 6,129,100        |
| Miraflores steam plant.....                                              | 1,970            | 2,100         | 19,490           |
| Combined gross output.....                                               | 5,200,270        | 5,525,000     | 6,148,590        |
| Water consumption..... cubic feet..                                      | 3,970,751,857    | 4,186,412,827 | 4,414,970,000    |
| Oil consumption..... barrels..                                           | 1,953            | 1,990         | 1,937            |
| Power distributed to consumers..... KWH ..                               | 4,396,098        | 4,663,235     | 5,183,953        |
| Loss of power in plant auxiliaries, transmission and transformation..... | 804,172          | 861,765       | 964,637          |
| Per cent of loss of power to gross output.....                           | 15.5             | 15.6          | 15.5             |



The following new construction work was under progress during the month, with completion on August 31 and September 30 as follows:

|                                                                                           | Per cent completed. |           |
|-------------------------------------------------------------------------------------------|---------------------|-----------|
|                                                                                           | Aug. 31.            | Sept. 30. |
| Installation of new 8,400 KVA transformer and new tie-line equipment at Gatun substation. | 80                  | 90        |
| Installation of 2 complete feeder equipments at Balboa substation.....                    | 95                  | 95        |
| Installation of electrical equipment at hydroelectric station.....                        | 55                  | 100       |

Miscellaneous electrical repairs and installations of electrical equipment were made on 11 vessels at Cristobal and 25 vessels at Balboa during the month. There were 374 work orders issued for work to be performed by the Electrical Division during the month of September, as compared with 438 for August.

#### SHOP, FOUNDRY, AND DRY DOCK WORK.

At the Balboa shops, miscellaneous repairs were made on 31 vessels, the more important of which were as follows:

The new boilers were placed in the steamship *Panama*, together with the uptake and smokestack. Work on the double bottoms was completed. Construction of new cold storage rooms was completed with the exception of piping installation. Substantial progress was made on the other repairs to the vessel.

On the steamship *Solana*, repairs to the bow plating were completed together with miscellaneous machinery repairs to the vessel. Repairs to the hull and miscellaneous engine and deck repairs were made on the steamship *Bradford*. The boilers and feed pump of the steamship *Donald McKay* were repaired.

The routine docking of the Dredging Division fleet, which was started at the end of August, was continued, 12 vessels being dry-docked during the month.

At the Cristobal shops miscellaneous repairs were made on 47 vessels, the more important of which were as follows:

The U. S. S. P. 1841 was docked and the bottom cleaned and painted. The fore-castle deck was removed and replaced by a wooden deck; the smokestack was removed and the housing over engine and firerooms renewed.

On the U. S. S. No. 287, all C. and R. sea valves were overhauled; the bottom cleaned, and screens on underwater suction renewed where necessary. One propeller blade was straightened and other miscellaneous repairs were made.

The hull of barge No. 21 was cleaned, patched, and painted. Barge No. 1 was cleaned and painted and 6 shell plates renewed.

There were 29 vessels dry-docked during the month; 11 at Cristobal, and 18 at Balboa.

The output of the Mechanical Division in patterns and castings for September, as compared with the preceding month, was as follows:

|             | September, 1921. |           |         | August, 1921. |           |         |
|-------------|------------------|-----------|---------|---------------|-----------|---------|
|             | Patterns.        | Castings. | Pounds. | Patterns.     | Castings. | Pounds. |
| Iron .....  | 14               | 248       | 10,407  | 5             | 1,035     | 29,240  |
| Steel ..... | 2                | 26        | 6,720   | 2             | 19        | 16,170  |
| Brass ..... | 4                | 152       | 5,275   | 15            | 483       | 11,737  |

The 5 towing locomotives for the locks were completed during the month and delivered for installation of electric wiring.

The routine inspection, hostling, and repair of equipment for the Panama Railroad Company was carried on during the month. Four hundred and forty job orders were completed during the month, with 244 remaining uncompleted at the end of the month.

One hundred and twenty special individual and company job orders were issued during the month, 12 of which were for work on naval vessels, and 25 covered repairs to commercial vessels, exclusive of the Panama Railroad steamships.

#### DREDGING DIVISION.

There were no slide movements of consequence during the month. Cucaracha slide remained inactive except for occasional periodical surface movements and a slight general movement near the south crest, about elevation plus 360, but which at present is considered unimportant.

A slow general movement has continued through the entire length of West Culebra and East Barge Repair slides, and a slight independent movement occurred at East Culebra slide on the 10th, between stations 1765 and 1770, which caused about 35,000 cubic yards of material to come into the Canal prism.

No inconvenience to Canal traffic was occasioned by any of the above movements.

The total excavation in September, including earth and rock, was 460,250 cubic yards, as follows:

| Cubic yards. | Classified as-- |         | Character of work. | Stations.                                                                | Equipment.       |
|--------------|-----------------|---------|--------------------|--------------------------------------------------------------------------|------------------|
|              | Earth.          | Rock.   |                    |                                                                          |                  |
| 24,300       | 4,000           | 20,300  | Maintenance.....   | <i>Gaillard Cut, Powder House Slide.</i><br>1630-00 to 1639-00 E.....    | <i>Paraiso.</i>  |
| 69,050       | 17,210          | 51,840  | Maintenance.....   | <i>Gaillard Cut, East Barge Repair Slide.</i><br>1760-00 to 1770-00..... | <i>Paraiso.</i>  |
| 61,900       | 26,900          | 35,000  | Maintenance.....   | <i>Pacific entrance.</i><br>2316-50 to 2274-00 W.....                    | <i>Cascadas.</i> |
| 10,000       | 10,000          | .....   | Original.....      | .....                                                                    | <i>Cascadas.</i> |
| 128,500      | 128,500         | .....   | Maintenance.....   | 2183-40 to 2220-50 W.....                                                | <i>No. 84.</i>   |
| 12,000       | 12,000          | .....   | Maintenance.....   | 2155-00 to 2158-50 E.....                                                | <i>No. 86.</i>   |
| 10,000       | 10,000          | .....   | Original.....      | 2129-00 to 2135-00 W.....                                                | <i>No. 86.</i>   |
| 12,000       | 12,000          | .....   | Maintenance.....   | .....                                                                    | <i>No. 86.</i>   |
| 13,900       | 13,900          | .....   | Maintenance.....   | 2123-00 to 2125-00 E.....                                                | <i>No. 86.</i>   |
| 118,600      | 118,600         | .....   | Maintenance.....   | 2140-00 to 2160-00 W.....                                                | <i>No. 86.</i>   |
| 460,250      | 133,110         | 107,140 |                    |                                                                          |                  |

The material excavated at the various stations was disposed of as follows:

|                                      | Cubic yards. |
|--------------------------------------|--------------|
| Dumped north of Gamboa.....          | 93,350       |
| Dumped on San Juan fill.....         | 128,500      |
| Dumped on Arsenal fill.....          | 118,600      |
| Dumped on flats east of Canal.....   | 47,900       |
| Dumped at sea, Pacific entrance..... | 71,900       |
| Total.....                           | 460,250      |

#### MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations, and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form.

|                                    | September,<br>1921. | August,<br>1921. | September,<br>1920. |
|------------------------------------|---------------------|------------------|---------------------|
|                                    | <i>Gallons.</i>     | <i>Gallons.</i>  | <i>Gallons.</i>     |
| Pumping stations.....              | 708,203,000         | 740,414,000      | 902,380,815         |
| Filtration plants.....             | 426,862,000         | 455,145,000      | 496,443,000         |
| Water consumed by Panama City..... | 91,415,000          | 97,595,000       | 82,030,000          |
| Water consumed by Colon.....       | 52,807,000          | 54,005,250       | 53,553,000          |
| Sales of water to vessels.....     | 9,992,132           | 12,239,017       | 13,477,217          |

Construction work, as itemized below, was under progress during the month, with completion on August 31 and September 30 as shown:

|                                                                  | Per cent completed. |           |
|------------------------------------------------------------------|---------------------|-----------|
|                                                                  | Aug. 31.            | Sept. 30. |
| Construction of new concrete sea wall, Santo Tomas Hospital..... | 50                  | 53        |
| Extension of roads, new Santo Tomas Hospital.....                | 6                   | 6         |
| Concrete roof, low service reservoir.....                        | 70                  | 98        |
| Grading at Silver City, Mount Hope.....                          | 60                  | 75        |
| Storm sewer, Diablo Road, at lumber shed.....                    | 45                  | 60        |
| Foundation for statue of Balboa.....                             | 32                  | 79        |
| Extension of sewers, new Santo Tomas Hospital.....               | .....               | 35        |

Municipal work for the Army and Navy is separately reported.

#### OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                              | Men.  | Women. | Children. | Total occupants. |               |                  |
|------------------------------|-------|--------|-----------|------------------|---------------|------------------|
|                              |       |        |           | September 1921.  | August, 1921. | September, 1920. |
| Americans.....               | 2,704 | 2,065  | 2,287     | 7,056            | 7,056         | 8,199            |
| Europeans.....               | 142   | 37     | 79        | 258              | 231           | 223              |
| West Indians.....            | 5,116 | 2,566  | 5,316     | 12,998           | 13,166        | 10,979           |
| Totals, September, 1921..... | 7,962 | 4,668  | 7,682     | 20,312           | .....         | .....            |
| Totals, August, 1921.....    | 8,064 | 4,629  | 7,760     | .....            | 20,453        | .....            |
| Totals, September, 1920..... | 8,696 | 4,093  | 6,543     | .....            | .....         | 19,401           |

## WORKING FORCE—NUMBER OF EMPLOYEES.

The total number of employees as of September 21, 1921, was 12,375, as compared with 19,438 as of September 22, 1920, making the number of employees of The Panama Canal and the Panama Railroad Company approximately 64 per cent of the number a year ago.

The following tabulation shows the number of gold and silver employees, as of September 21, 1921, by departments, together with a comparison of the working force of the preceding month, and that of September, 1920:

|                                      | Employees. |         | Total employees. |               |                  |
|--------------------------------------|------------|---------|------------------|---------------|------------------|
|                                      | Gold.      | Silver. | September, 1921. | August, 1921. | September, 1920. |
| Operation and Maintenance:           |            |         |                  |               |                  |
| Office.....                          | 28         | 32      | 60               | 61            | 68               |
| Electrical.....                      | 165        | 159     | 324              | 358           | 494              |
| Municipal Engineering.....           | 86         | 676     | 762              | 827           | 1,300            |
| Lock Operation.....                  | 167        | 559     | 726              | 729           | 731              |
| Dredging.....                        | 156        | 742     | 898              | 903           | 1,304            |
| Mechanical.....                      | 592        | 973     | 1,565            | 1,672         | 2,790            |
| Marine.....                          | 170        | 411     | 581              | 615           | 698              |
| Fortifications.....                  | 47         | 257     | 304              | 261           | 430              |
| Totals.....                          | 1,411      | 3,809   | 5,220            | 5,426         | 7,815            |
| Supply Department:                   |            |         |                  |               |                  |
| Quartermaster.....                   | 192        | 1,153   | 1,345            | 1,477         | 3,041            |
| Subsistence.....                     | 23         | 242     | 265              | 289           | 413              |
| Commissary.....                      | 9          | 1,066   | 1,266            | 1,318         | 1,934            |
| Cattle Industry, Plantations.....    | 129        | 145     | 145              | 146           | 458              |
| Hotel Washington.....                | 9          | 90      | 99               | 99            | 101              |
| Totals.....                          | 440        | 2,680   | 3,120            | 3,329         | 5,947            |
| Accounting Department.....           | 203        | 7       | 210              | 214           | 261              |
| Health Department.....               | 233        | 770     | 1,003            | 969           | 1,076            |
| Executive.....                       | 525        | 220     | 745              | 758           | 779              |
| Totals.....                          | 961        | 997     | 1,958            | 1,941         | 2,116            |
| Panama Railroad:                     |            |         |                  |               |                  |
| Superintendent.....                  | 61         | 244     | 305              | 399           | 680              |
| Transportation.....                  | 86         | 111     | 197              | 209           | 325              |
| Receiving and Forwarding Agency..... | 68         | 995     | 1,063            | 841           | 1,500            |
| Coaling stations.....                | 100        | 412     | 512              | 673           | 1,055            |
| Totals.....                          | 315        | 1,762   | 2,077            | 2,122         | 3,560            |
| Grand totals, September, 1921.....   | 3,127      | 9,248   | 12,375           | .....         | .....            |
| Grand totals, August, 1921.....      | 3,239      | 9,579   | .....            | 12,818        | .....            |
| Grand totals, September, 1920.....   | 4,421      | 15,017  | .....            | .....         | 19,438           |

\* Includes employees of former Building Division.

## VITAL STATISTICS.

A total of 165 deaths occurred during the month of September, 1921, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 15.94 per thousand. The 3 leading causes of death were (a) tuberculosis, (b) pneumonia, and (c) diarrhea and enteritis. Among other causes of death listed were 2 from malaria fever, 1 each from typhoid fever and diphtheria, and 6 from external causes. Of the total deaths, 63, or 38 per cent, occurred among children under 5 years of age. There were 12 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 321 live births reported during the month, and 22 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 33.13 per thousand population. Deaths among children under 1 year of age numbered 46, giving an infant mortality rate, based on the number of births reported for September, 1921, of 143.30 per thousand live births.

Ninety-nine cases of malaria were reported during the month, of which 18 were employees and 81 nonemployees; of the nonemployees, 71 were soldiers. These malarial cases originated as follows: In Panama City, 4; in the Canal Zone, 64; outside of the Canal Zone, 31.

Among other diseases reported during the month, there were 5 cases of smallpox, 2 of typhoid fever, 2 of dysentery, 2 of leprosy, 5 of diphtheria, and 1 of scarlet fever.

#### RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, and cash sales from stock, as compared with the preceding month, and the corresponding month of last year, were as follows:

|                                                                                  | September,<br>1921. | August,<br>1921. | September,<br>1920. |
|----------------------------------------------------------------------------------|---------------------|------------------|---------------------|
| Materials received on U.S. requisitions during the month, chargeable as follows: |                     |                  |                     |
| Operation and Maintenance.....                                                   | \$67,004.52         | \$231,470.63     | \$938,166.68        |
| Construction and equipment.....                                                  |                     |                  | 25,315.50           |
| Miscellaneous.....                                                               | 13,819.02           | 17,068.84        | 5,612.84            |
| Totals.....                                                                      | 80,823.54           | 248,539.47       | 969,095.02          |
| Cash sales on the Isthmus:                                                       |                     |                  |                     |
| Stock.....                                                                       | 27,105.54           | 26,170.91        | 48,643.53           |
| Fuel oil (including sales to steamships).....                                    | 108.88              | 1,947.40         | 171,467.60          |
| Scrap.....                                                                       | 400.01              | 1,270.07         | 3,242.22            |
| Obsolete and second hand material.....                                           | 828.31              | 5,432.93         | 1,752.34            |
| Totals.....                                                                      | 28,442.74           | 34,821.31        | 225,105.69          |
| Sales to steamships from storehouses:                                            |                     |                  |                     |
| Miscellaneous stock items.....                                                   | 11,004.36           | 9,136.56         | 28,522.21           |
| Fuel oil.....                                                                    | 108.88              | 1,207.40         | 142,937.50          |
| Totals.....                                                                      | 11,113.24           | 10,343.96        | 171,459.71          |

Respectfully,

M. L. WALKER,

*Acting Governor.*

#### Improvements in Operating Machinery at Cristobal Coaling Plant.

During the past year several improvements in the equipment of the coaling plant at Cristobal have made it possible to bunker ships with even greater expedition.

The wharf bunker, on the end wharf of the plant, which extends between the unloader wharf and the reloader wharf at their seaward end, was originally built for supplying coal to tugs and other comparatively small craft through long chutes. It has been redesigned and equipped with two booms similar to those on the reloaders. This has made another berth for full-rate bunkering at the plant, in addition to those already available at the reloader wharf. The booms are 30 feet in length and operate on swing circles. On account of the height of the wharf bunker this berth is especially suitable for coaling high ships.

Slight alterations in the operating machinery in all of the reloader towers increased their capacity for bunkering.

Two barges equipped with conveyors (*Nos. 13 and 29*) were re-designed. Steel superstructures were substituted for the wooden booms, and the rated capacity of the conveyors on each barge was



increased from 75 to 200 tons per hour. Reconstruction on barges *Nos. 15* and *21* had been done in the previous year, giving each of them a rated capacity of 400 tons an hour, with self-trimming features which reduce the number of trimmers needed in their operation. Barges *Nos. 13* and *29* are each equipped with two 40-foot Demayo conveyors; *Nos. 15* and *21* have each four 55 and 60-foot conveyors.

A reloader attachment is to be placed on 1 of the 4 unloader towers on the wharf at which the colliers are discharged into the plant. This will make it possible to bunker a ship at the unloader wharf, while at the same time having space and equipment to discharge a collier. With this improvement it will be possible to bunker 4 large vessels simultaneously at the pier, while discharging a fifth; and the 4 conveyor barges will be available for bunkering ships at the cargo docks or in the bay, as well as at the plant.

Improvements in the unloading equipment have increased materially the rate at which colliers can be discharged into the plant. Among these was the installation of equipment for using oil fuel in boilers of the unloaders; this has allowed the working of the machinery continuously under a head of steam which could not be maintained with coal.

Working only 2 of the 4 unloaders, the plant recently discharged a cargo of 9,611 long tons of coal from the steamer *Cristobal* in 29 working hours. This was considered especially good in view of the fact that the vessel was built for carrying general cargo and passengers and is not well adapted to the handling of coal. The regular colliers, *Achilles* and *Ulysses*, carrying about 12,000 tons, are discharged in from 15 to 30 hours, depending on the amount of bunkering being done at the same time.

During the last fiscal year the coal sold from the station amounted to about 475,000 tons. During the first 7 months of the year the sales averaged about 43,000 tons per month, and during the last 5 months about 34,000 tons. With the reduction in price of \$3 per ton, effective October 15, it is expected that sales will again increase. In addition to the coal sold, 75,983 tons were delivered during the fiscal year to Navy vessels from the stock of Navy coal maintained at the plant.

It has been the policy of the Panama Canal coaling plants to discharge ships as quickly as possible. Below are a few records which were made during the last fiscal year. The hours and minutes include the time required for trimming in bunkers:

| Name of ship.   | Tons of coal bunkered. | Time.  |          | Date.              |
|-----------------|------------------------|--------|----------|--------------------|
|                 |                        | Hours. | Minutes. |                    |
| Wiltshire.....  | 1,102                  | 1      | 25       | November 25, 1920. |
| Maimoa.....     | 656                    | .....  | 45       | May 10, 1921.      |
| Athenic.....    | 2,005                  | 10     | 20       | May 10, 1921.      |
| Antillian.....  | 77                     | .....  | 10       | May 11, 1921.      |
| Cape Henry..... | 285                    | .....  | 20       | May 11, 1921.      |
| Transvaal.....  | 53                     | .....  | 5        | June 1, 1921.      |

Trimming in bunkers, of course, retards the rate of delivery. On February 18 the Navy collier *Neptune* took 8,296 tons of coal from the coaling plant in her hold as cargo. It was loaded in 4 hours and 35 minutes.

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, September, 1921.\*

| From— | North America.             |  |                            |  |             |                          |  |              |  |  | Europe.          |  |                          |  |  |                |  |  |          |  | Grand total. | Per cent of total cargo. |          |  |  |         |  |          |          |  |  |          |        |  |        |  |  |         |  |  |        |  |        |         |  |  |                      |         |  |                |  |  |                              |  |  |  |  |                |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|       | United States.             |  |                            |  |             | Cristobal, C. Z.         |  |              |  |  | British Isles.   |  |                          |  |  | France.        |  |  |          |  |              |                          | Germany. |  |  |         |  | Holland. |          |  |  |          | Italy. |  |        |  |  | Norway. |  |  |        |  | Spain. |         |  |  |                      | Sweden. |  |                |  |  | Europe. <sup>2</sup>         |  |  |  |  | Total, Europe. |  |  |  |  | East coast of South America. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       | North At-<br>lantic ports. |  | South At-<br>lantic ports. |  | Gulf ports. | Total, United<br>States. |  | West Indies. |  |  | Cristobal, C. Z. |  | Total, North<br>America. |  |  | British Isles. |  |  | Belgium. |  |              |                          | Denmark. |  |  | France. |  |          | Germany. |  |  | Holland. |        |  | Italy. |  |  | Norway. |  |  | Spain. |  |        | Sweden. |  |  | Europe. <sup>2</sup> |         |  | Total, Europe. |  |  | East coast of South America. |  |  |  |  |                |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |                            |  |                            |  |             |                          |  |              |  |  |                  |  |                          |  |  |                |  |  |          |  |              |                          |          |  |  |         |  |          |          |  |  |          |        |  |        |  |  |         |  |  |        |  |        |         |  |  |                      |         |  |                |  |  |                              |  |  |  |  |                |  |  |  |  |                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

\* General cargo not routed so as to allow segregation between definite ports.

\* Figures represent tons of 2,240 pounds.

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, September, 1921.\*

| FROM—                                              | SOUTH AMERICA. |           |          |       |                                           | NORTH AMERICA.        |                              |         |                                |               | ASIA.                 |        |        |              |                        | AUSTRALASIA. |            |              |                           |                     | Grand totals. | Per cent of total cargo. |         |      |
|----------------------------------------------------|----------------|-----------|----------|-------|-------------------------------------------|-----------------------|------------------------------|---------|--------------------------------|---------------|-----------------------|--------|--------|--------------|------------------------|--------------|------------|--------------|---------------------------|---------------------|---------------|--------------------------|---------|------|
|                                                    | Chile.         | Colombia. | Ecuador. | Peru. | West coast of South America. <sup>2</sup> | Total, South America. | West coast of United States. | Canada. | West coast of Central America. | Balboa, C. Z. | Total, North America. | China. | Japan. | Philippines. | Far East. <sup>2</sup> | Total, Asia. | Australia. | New Zealand. | Australasia. <sup>2</sup> | Total, Australasia. |               |                          | Hawaii. |      |
| UNITED STATES:                                     |                |           |          |       |                                           |                       |                              |         |                                |               |                       |        |        |              |                        |              |            |              |                           |                     |               |                          |         |      |
| North Atlantic ports.....                          | 268            |           | 48       | 3,259 | 3,673                                     | 7,248                 | 49,804                       | 238     | 59                             | 12,038        | 50,101                | 10,848 | 41,796 | 4,622        | 11,753                 | 69,019       | 5,400      |              | 14,500                    | 19,900              | 2,400         | 148,668                  | 49.6    |      |
| South Atlantic ports.....                          | 673            |           | 138      | 173   | 169                                       | 1,153                 | 831                          |         |                                |               | 12,869                | 2,423  | 7,913  |              | 2,760                  | 13,096       |            |              |                           |                     |               | 27,118                   | 9.0     |      |
| Gulf ports.....                                    |                |           |          |       |                                           |                       | 20,922                       | 1,000   |                                |               | 21,922                | 7,685  |        |              | 15,761                 | 23,446       |            |              |                           |                     |               | 45,368                   | 15.1    |      |
| Total, United States.....                          | 941            |           | 186      | 3,432 | 3,842                                     | 8,401                 | 71,557                       | 1,238   | 59                             | 12,038        | 84,892                | 20,956 | 49,709 | 4,622        | 30,274                 | 105,561      | 5,400      |              | 14,500                    | 19,900              | 2,400         | 221,154                  | 73.7    |      |
| East coast of Mexico.....                          | 7,889          |           |          |       |                                           | 7,889                 | 1,167                        |         | 3,670                          |               | 4,837                 | 10,000 |        |              |                        | 10,000       |            |              |                           |                     |               | 17,889                   | 5.9     |      |
| Atlantic terminus, Cristobal, C. Z.....            |                | 288       | 34       |       | 2,115                                     | 2,437                 | 72,000                       |         |                                |               | 2,007                 |        |        |              |                        |              |            |              |                           |                     |               | 7,274                    | 2.4     |      |
| West Indies.....                                   |                |           |          |       | 6                                         | 6                     |                              |         |                                |               |                       |        |        |              |                        |              |            |              |                           |                     |               | 2,013                    | 0.7     |      |
| East coast of Canada.....                          |                |           |          |       |                                           |                       |                              |         |                                |               |                       |        |        |              |                        |              |            |              | 3,280                     | 3,280               |               | 3,280                    | 1.1     |      |
| Total, North America.....                          | 8,830          | 288       | 220      | 3,432 | 5,963                                     | 18,733                | 72,731                       | 1,238   | 3,729                          | 12,038        | 91,736                | 20,956 | 59,709 | 4,622        | 30,274                 | 115,561      | 5,400      |              | 17,780                    | 23,180              | 2,400         | 251,610                  | 83.8    |      |
| EUROPE:                                            |                |           |          |       |                                           |                       |                              |         |                                |               |                       |        |        |              |                        |              |            |              |                           |                     |               |                          |         |      |
| Belgium.....                                       | 2,400          |           |          |       |                                           | 2,400                 | 3,734                        | 332     |                                |               | 4,066                 |        |        |              |                        |              |            |              | 5,200                     | 14,466              | 19,686        |                          | 4,066   | 1.3  |
| British Isles.....                                 |                |           | 30       |       | 2,840                                     | 2,870                 | 2,866                        | 1,908   |                                |               | 4,774                 |        |        |              |                        |              |            |              |                           |                     |               |                          | 29,820  | 9.9  |
| France.....                                        | 60             |           |          |       | 118                                       | 178                   | 1,178                        |         |                                |               | 1,187                 |        |        |              |                        |              |            |              |                           |                     |               |                          | 178     | 0.1  |
| Germany.....                                       | 125            |           | 200      |       | 2,475                                     | 2,800                 | 1,524                        | 123     |                                |               | 1,647                 |        |        |              |                        |              |            |              |                           |                     |               |                          | 4,447   | 1.5  |
| Holland.....                                       | 210            |           |          |       | 210                                       | 210                   | 215                          | 103     |                                |               | 318                   |        |        |              |                        |              |            |              |                           |                     |               |                          | 528     | 0.1  |
| Italy.....                                         | 14             |           |          |       | 44                                        | 58                    |                              |         |                                |               | 1,310                 |        |        |              |                        |              |            |              |                           |                     |               |                          | 58      | 0.1  |
| Europe.....                                        | 285            |           | 51       | 266   | 3,151                                     | 3,753                 | 1,310                        |         |                                |               | 1,310                 |        |        |              |                        |              |            |              |                           |                     |               |                          | 5,063   | 1.7  |
| Total, Europe.....                                 | 3,184          |           | 51       | 496   | 8,628                                     | 12,359                | 9,649                        | 2,466   |                                |               | 12,115                |        |        |              |                        |              |            |              | 5,220                     | 14,466              | 19,686        |                          | 44,160  | 14.6 |
| East coast of South America.....                   |                | 814       |          |       |                                           | 814                   | 4,136                        |         |                                |               | 4,136                 |        |        |              |                        |              |            |              |                           |                     |               |                          | 4,950   | 1.6  |
| Grand totals.....                                  | 12,014         | 1,102     | 271      | 3,928 | 14,591                                    | 31,906                | 86,516                       | 5,704   | 3,729                          | 12,038        | 107,987               | 20,956 | 59,709 | 4,622        | 30,274                 | 115,561      | 5,400      | 5,220        | 32,246                    | 42,866              | 2,400         | 300,720                  | 100.0   |      |
| Per cent of total cargo, Sep-<br>tember, 1921..... | 4.0            | 0.4       | 0.1      | 1.3   | 4.8                                       | 10.6                  | 28.8                         | 1.9     | 1.2                            | 4.0           | 35.9                  | 7.0    | 19.9   | 1.5          | 10.1                   | 38.5         | 1.8        | 1.7          | 10.7                      | 14.2                | 0.8           | 100.0                    | .....   |      |
| Per cent of total cargo, Au-<br>gust, 1921.....    | 5.7            | 0.5       | 0.2      | 0.7   | 10.6                                      | 17.7                  | 18.8                         | 2.4     | 0.4                            | 8.8           | 30.4                  | 6.2    | 13.6   | 1.3          | 15.6                   | 36.7         | 6.3        | 2.6          | 6.0                       | 14.9                | 0.3           | 100.0                    | .....   |      |
| Per cent of total cargo, Sep-<br>tember, 1920..... | 27.5           | 0.5       | 0.3      | 0.4   | 7.8                                       | 36.4                  | 17.2                         | 1.2     | 0.4                            | 2.9           | 24.7                  | 9.4    | 8.0    | 1.5          | 4.7                    | 23.6         | 3.2        | 4.9          | 7.1                       | 15.2                | .....         | .....                    | .....   |      |

\* General cargo not routed so as to allow segregation between definite ports.

\* Figures represent tons of 2,240 pounds.



**MOVEMENTS OF OCEAN VESSELS.**  
*Week ending at midnight, October 22 1921.*

| THROUGH THE CANAL- ATLANTIC TO PACIFIC. |                  |       |                |       |                    |       |                  |       |              |       |         |           |                            |                                   |      |         |       |                       |      |           |                |                |
|-----------------------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-------|---------|-----------|----------------------------|-----------------------------------|------|---------|-------|-----------------------|------|-----------|----------------|----------------|
| Ship.                                   | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line. | Length. | Beam.     | Salt water draft.          | From—                             | For— | Cargo.  |       | Panama Canal tonnage. |      |           |                |                |
|                                         | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |       |         |           |                            |                                   |      | Nature. | Tons. | Gross.                | Nct. |           |                |                |
| Karachi Maru.                           | 15               | 17    | 19             | 16    | 6                  | 30    | 16               | 14    | 46           | 16    | 17      | 00        | Japanese.                  | Kokusai Kabushiki K. Kaisha.      | 385  | 0       | 51    | 0                     | 28   | 0         | Galveston.     | Yokohama.      |
| Suzaky.                                 | 8                | 13    | 15             | 16    | 6                  | 30    | 16               | 15    | 25           | 19    | 10      | 29        | French.                    | Cia Franco-Tahitienne.            | 111  | 0       | 29    | 0                     | 12   | 0         | Rouen, France. | Tabiti.        |
| Esuro.                                  | 15               | 12    | 16             | 7     | 35                 | 16    | 15               | 05    | 16           | 18    | 03      | 13        | New York.                  | Pacific Steam Navigation Co.      | 450  | 0       | 58    | 0                     | 23   | 0         | Valparaiso.    | Valparaiso.    |
| Architect.                              | 15               | 17    | 10             | 16    | 9                  | 00    | 16               | 16    | 58           | 18    | 03      | 13        | Glasgow.                   | Harrison Line.                    | 410  | 0       | 52    | 0                     | 23   | 0         | Glasgow.       | Los Angeles.   |
| Steel Inventor.                         | 16               | 5     | 16             | 16    | 10                 | 23    | 16               | 15    | 16           | 19    | 12      | 40        | American.                  | United States Steel Products Co   | 424  | 0       | 56    | 0                     | 26   | 0         | New York.      | Yokohama.      |
| Honduras                                | 14               | 14    | 10             | 16    | 11                 | 06    | 16               | 15    | 04           | 19    | 15      | 39        | French.                    | Cia. Gle. Transatlantique.        | 390  | 0       | 51    | 0                     | 17   | 0         | Havre.         | San Francisco. |
| S. C. S. C. 285                         | 17               | 7     | 30             | 17    | 7                  | 30    | 17               | 18    | 15           | 04    | 19      | 15        | American.                  | United States Navy.               | 376  | 0       | 52    | 0                     | 17   | 0         | Cristobal.     | Balboa.        |
| Cape Henry.                             | 17               | 9     | 23             | 17    | 13                 | 11    | 17               | 20    | 05           | 17    | 26      | American. | Atl. Gulf & Pacific S. Co. | 476                               | 0    | 52      | 0     | 17                    | 0    | New York. | Los Angeles.   |                |
| Torrey                                  | 17               | 22    | 28             | 18    | 6                  | 54    | 18               | 14    | 21           | 18    | 15      | 30        | Norwegian.                 | Martin Mosvold.                   | 300  | 0       | 50    | 0                     | 16   | 0         | Norfolk.       | Astoria.       |
| Oseare                                  | 18               | 8     | 03             | 18    | 8                  | 43    | 18               | 16    | 18           | 18    | 03      | 13        | Peruvian.                  | Moore & McCormack                 | 387  | 0       | 50    | 0                     | 15   | 0         | New York.      | Port Angeles.  |
| Unrumba                                 | 12               | 21    | 15             | 18    | 11                 | 24    | 18               | 18    | 32           | 18    | 19      | 32        | Peruvian.                  | Peruvian Line.                    | 381  | 0       | 46    | 0                     | 19   | 0         | Cristobal.     | Callao.        |
| Kazambo                                 | 18               | 10    | 37             | 18    | 12                 | 37    | 18               | 19    | 27           | 19    | 08      | 37        | British.                   | Ellerman & Bucknell.              | 414  | 0       | 50    | 0                     | 25   | 1         | New Orleans.   | Kobe.          |
| Prince                                  | 19               | 12    | 05             | 19    | 11                 | 15    | 19               | 19    | 49           | 19    | 37      | British.  | Prinze Line, Ltd.          | 423                               | 0    | 56      | 0     | 16                    | 0    | Newport.  | Vancouver.     |                |
| Hague Maru                              | 19               | 10    | 45             | 19    | 11                 | 15    | 19               | 14    | 17           | 20    | 15      | 38        | Japanese.                  | Oaska Shosen Kaisha               | 407  | 0       | 52    | 0                     | 28   | 6         | New York.      | Singapore.     |
| Derrell                                 | 19               | 14    | 39             | 20    | 7                  | 15    | 20               | 14    | 17           | 20    | 15      | 30        | Norwegian.                 | Hakken J. Wallen                  | 420  | 0       | 54    | 0                     | 15   | 6         | Danzig.        | San Francisco. |
| Eden                                    | 20               | 7     | 13             | 20    | 8                  | 15    | 20               | 15    | 07           | 21    | 4       | 49        | American.                  | Elder Steel Steamship Co.         | 434  | 0       | 53    | 0                     | 17   | 6         | Antwerp.       | Seattle.       |
| Panama.                                 | 20               | 7     | 13             | 20    | 8                  | 15    | 20               | 15    | 07           | 21    | 4       | 49        | American.                  | American-Hawain Line              | 407  | 0       | 53    | 0                     | 19   | 0         | New York.      | Los Angeles.   |
| Gold Harbor.                            | 20               | 7     | 18             | 20    | 9                  | 10    | 20               | 16    | 48           | 21    | 21      | 45        | American.                  | S. Amer. Western S. S. Co. (S.B.) | 390  | 0       | 54    | 0                     | 19   | 0         | Philadelphia.  | Los Angeles.   |
| Robin Adair                             | 20               | 7     | 52             | 20    | 10                 | 35    | 20               | 16    | 48           | 21    | 21      | 45        | American.                  | Sea Shipping Co.                  | 425  | 0       | 55    | 0                     | 26   | 0         | New York.      | Los Angeles.   |
| Rasao.                                  | 17               | 20    | 30             | 20    | 10                 | 47    | 20               | 19    | 23           | 21    | 12      | 19        | Chilean.                   | South American Steamship Line.    | 380  | 0       | 44    | 0                     | 20   | 0         | Cristobal.     | Valparaiso.    |
| Willbilo                                | 20               | 16    | 07             | 21    | 6                  | 28    | 21               | 14    | 15           | 21    | 15      | 18        | American.                  | Imperial Oil Co.                  | 490  | 0       | 58    | 0                     | 21   | 0         | New York.      | Seattle.       |
| Vancouver.                              | 20               | 8     | 35             | 21    | 8                  | 27    | 21               | 16    | 41           | 21    | 15      | 50        | American.                  | Standard Oil Co.                  | 440  | 0       | 58    | 0                     | 30   | 0         | Mata Redonda   | Ioco, B. C.    |
| D. C. Schofield.                        | 20               | 19    | 04             | 21    | 9                  | 30    | 21               | 17    | 24           | 22    | 13      | 04        | American.                  | Molson Navigation Co. (S. B.)     | 517  | 0       | 72    | 0                     | 23   | 0         | Baltimore.     | Hilo.          |
| Buckeye State.                          | 21               | 4     | 37             | 21    | 11                 | 13    | 21               | 19    | 03           | 22    | 13      | 04        | British.                   | Australian Government.            | 490  | 0       | 55    | 0                     | 18   | 0         | Glasgow.       | Brisbane.      |
| Arulcan                                 | 14               | 18    | 09             | 22    | 6                  | 05    | 22               | 13    | 47           | 22    | 16      | 30        | British.                   | Pacific Steam Navigation Co.      | 215  | 0       | 33    | 0                     | 13   | 7         | Cristobal.     | Guayaquil.     |
| Silvador.                               | 14               | 20    | 22             | 14    | 19                 | 22    | 15               | 22    | 05           | 22    | 16      | 30        | Japanese.                  | Nippon Yusen Kaisha.              | 445  | 0       | 58    | 0                     | 22   | 7         | New York.      | Shanghai.      |
| Toyama Maru                             | 21               | 10    | 47             | 22    | 7                  | 15    | 22               | 16    | 03           | 22    | 16      | 40        | Japanese.                  | Crowell & Thurlow Steamship Co.   | 305  | 0       | 55    | 0                     | 19   | 0         | New York.      | Seattle.       |
| A. L. Kent.                             | 21               | 18    | 44             | 22    | 8                  | 40    | 22               | 16    | 05           | 22    | 17      | 02        | American.                  | A. O. Lindvig.                    | 265  | 0       | 38    | 0                     | 12   | 0         | Vera Cruz.     | San Francisco. |
| Snalao                                  | 22               | 10    | 43             | 22    | 11                 | 25    | 22               | 18    | 11           | 23    | 1       | 24        | Norwegian.                 | Williams, Diamond & Co. (S. B.)   | 440  | 0       | 56    | 0                     | 22   | 0         | Antwerp.       | San Francisco. |
| Omrona                                  | 22               | 5     | 34             | 22    | 11                 | 25    | 22               | 19    | 19           | 22    | 20      | 24        | American.                  |                                   |      |         |       |                       |      |           |                |                |

THROUGH THE CANAL.—PACIFIC TO ATLANTIC.

| City of Van-couver..... | 15 | 16 | 00 | 16 | 6 | 55 | 16 | 14 | 32 | 16 | 15 | 50 | British       | J. Coughlan & Sons..... | 411 | 5 | 54 | 0 | 24 | 0 | Tacoma.....     | Belfast.....      | General..... | 7,107 | 6,614  | 4,995 |
|-------------------------|----|----|----|----|---|----|----|----|----|----|----|----|---------------|-------------------------|-----|---|----|---|----|---|-----------------|-------------------|--------------|-------|--------|-------|
| Walter A.               | 15 | 19 | 00 | 16 | 8 | 03 | 16 | 15 | 19 | 16 | 15 | 19 | American..... | Luckenbach Line.....    | 446 | 5 | 56 | 1 | 27 | 1 | Portland.....   | Philadelphia..... | General..... | 5,800 | 8,785  | 6,582 |
| Luckenbach.....         | 15 | 32 | 20 | 18 | 0 | 04 | 16 | 16 | 25 | 17 | 6  | 15 | British.....  | White Star Line.....    | 500 | 3 | 63 | 4 | 27 | 0 | Wellington..... | Southampton.....  | General..... | 4,719 | 12,896 | 9,571 |



|                             |      |       |    |       |    |       |    |       |          |                                   |       |      |      |                |             |                        |       |        |       |
|-----------------------------|------|-------|----|-------|----|-------|----|-------|----------|-----------------------------------|-------|------|------|----------------|-------------|------------------------|-------|--------|-------|
| Pacific <sup>2</sup> .....  | 16   | 4.00  | 16 | 9.55  | 16 | 18.15 | 16 | 18.15 | Swedish  | Johnson Line                      | 362.0 | 51.3 | 24.0 | Vancouver      | London      | General                | 5,604 | 5,360  | 4,080 |
| Acajula.....                | 16   | 6.00  | 16 | 10.02 | 16 | 18.15 | 23 | 6.12  | British  | Pacific Steam Navigation Co.      | 215.0 | 33.0 | 12.9 | Champerio      | Cristobal   | Coffee, etc.           | 92    | 1,273  | 706   |
| Esequibo.....               | 16   | 12.30 | 16 | 13.55 | 16 | 20.45 | 18 | 12.05 | British  | Royal Mail Steam Packet Co.       | 450.3 | 57.8 | 23.6 | Valparaiso     | New York    | General                | 1,036 | 9,037  | 6,039 |
| Charles H. Cramp.....       | 16   | 18.00 | 17 | 7.49  | 17 | 15.20 | 17 | 15.20 | American | Atlantic, Gulf & Pac. S. S. Corp. | 404.0 | 53.9 | 21.6 | Seattle        | Baltimore   | General                | 4,088 | 6,755  | 4,750 |
| Brush.....                  | 16   | 23.00 | 17 | 8.48  | 17 | 16.38 | 18 | 9.05  | American | N. Atlantic & Western S. S. Co.   | 390.0 | 54.2 | 23.0 | Aberdeen       | New York    | General <sup>(s)</sup> | 5,640 | 6,161  | 4,433 |
| Ballena.....                | 17   | 4.00  | 17 | 9.56  | 17 | 17.41 | 17 | 18.57 | British  | Pacific Steam Navigation Co.      | 400.1 | 52.3 | 25.0 | Valparaiso     | United King | General                | 6,528 | 5,816  | 4,113 |
| Huaso.....                  | 17   | 4.00  | 17 | 13.52 | 17 | 20.30 | 10 | 10.47 | Chilean  | Chilean Line                      | 378.9 | 44.0 | 19.0 | Talcahuano     | Cristobal   | General                | 815   | 4,562  | 3,182 |
| South American.....         | 17   | 19.30 | 18 | 6.46  | 18 | 14.50 | 18 | 16.30 | British  | South American Steamship Co.      | 251.0 | 43.0 | 20.0 | Valparaiso     | New York    | Metals, cotton         | 2,919 | 2,444  | 1,593 |
| Saint Dunstan.....          | 18   | 8.45  | 18 | 9.40  | 18 | 17.08 | 18 | 18.10 | British  | The Saint Line, Ltd.              | 400.0 | 53.3 | 25.0 | San Francisco  | Norfolk     | Barley                 | 7,200 | 5,880  | 4,111 |
| Amalbutus.....              | 18   | 12.40 | 18 | 14.07 | 18 | 20.05 | 19 | 12.07 | British  | Anglo-Saxon Petroleum Co.         | 412.0 | 53.3 | 25.0 | San Francisco  | United King | Lubricating oil        | 7,215 | 6,242  | 4,299 |
| S. C. 285.....              | 17   | 15.04 | 18 | 8.40  | 18 | 16.59 |    |       | American | United States Navy                | 110.0 | 16.0 |      | Balboa         | Cristobal   | Ballast                | 7,133 | 4,903  |       |
| Los Angeles.....            | 16   | 22.30 | 19 | 7.07  | 19 | 14.28 | 19 | 14.28 | American | Union Oil Company of California   | 435.0 | 56.2 | 30.0 | Port San Louis | Palo Blanco | Copper, mach y         | 3,826 | 4,393  | 3,006 |
| Republ.....                 | 14   | 0.05  | 19 | 11.16 | 19 | 18.13 | 19 | 18.18 | American | Chile Steamship Co.               | 345.0 | 49.0 | 19.0 | Antofagasta    | New York    |                        | 328   | 180    |       |
| Carnegie <sup>2</sup> ..... | 7    | 9.40  | 20 | 7.46  | 20 | 14.39 | 20 | 14.39 | American | Carnegie Institute                | 135.6 | 32.2 | 13.0 | Apia           | Washington  |                        |       |        |       |
| Florence Luckenbach.....    | 19   | 13.55 | 20 | 8.40  | 20 | 16.15 | 20 | 16.15 | American | Luckenbach Line                   | 401.8 | 52.2 | 23.6 | Oregon         | New York    | Lumber, copper         | 7,405 | 6,002  | 4,638 |
| Anglo-Saxon.....            | 20   | 4.00  | 20 | 9.31  | 20 | 17.18 | 20 | 19.15 | British  | Lawther Latta Co.                 | 330.3 | 50.0 | 26.0 | Portland       | Norfolk     | Wheat                  | 6,380 | 5,436  | 3,939 |
| Isotz Mend.....             | 19   | 20.00 | 20 | 10.01 | 20 | 17.50 | 20 | 18.24 | Spanish  | Sota & Aznar                      | 335.0 | 50.2 | 23.0 | Valparaiso     | Hampden Rds | Wheat                  | 6,100 | 4,956  | 3,437 |
| Bogota.....                 | 20   | 6.00  | 20 | 11.28 | 20 | 18.17 | 20 | 18.17 | British  | Pacific Steam Navigation Co.      | 415.0 | 52.5 | 23.5 | Valparaiso     | Rotterdam   | General                | 6,307 | 5,733  | 4,015 |
| Alvarado.....               | 20   | 0.25  | 20 | 13.17 | 20 | 21.25 | 20 | 12.00 | American | Swayne & Hoyt                     | 245.0 | 41.5 | 15.0 | San Francisco  | Vera Cruz   | General                | 3,100 | 2,122  | 1,503 |
| Magellan.....               | 21   | 1.35  | 21 | 8.02  | 21 | 15.30 | 21 | 18.15 | British  | Pacific Steam Navigation Co.      | 491.6 | 59.1 | 25.9 | Colon          | Liverpool   | General                | 8,983 | 8,786  | 6,074 |
| Steel Exporter.....         | 21   | 2.30  | 21 | 8.54  | 21 | 16.45 | 21 | 23.10 | American | United States Steel Products Co.  | 424.2 | 56.2 | 26.2 | Seattle        | London      | General <sup>(s)</sup> | 8,100 | 7,523  | 5,448 |
| Hawarden.....               | 21   | 8.30  | 21 | 9.52  | 21 | 17.50 | 22 | 13.20 | American | Struthers & Dixon (S. B.)         | 402.5 | 53.0 | 26.8 | San Francisco  | Hamburg     | Copra cakes            | 7,400 | 6,525  | 4,746 |
| Lewis Luckenbach.....       | 21   | 15.40 | 22 | 6.48  | 22 | 14.45 | 22 | 14.45 | American | Luckenbach Line                   | 496.0 | 68.0 | 25.0 | Tacoma         | New York    | Lumber, general        | 9,000 | 11,486 | 8,731 |
| O-11.....                   | 9-19 | 15.49 | 22 | 7.03  | 22 | 14.43 | 22 | 14.43 | American | United States Navy                | 175.0 | 16.4 |      | Balboa         | Cristobal   | General                | 6,193 | 7,012  | 6,714 |
| Tongking.....               | 21   | 21.00 | 22 | 7.51  | 22 | 13.20 | 22 | 18.30 | Danish   | East Asiatic Steamship Co.        | 410.0 | 55.2 | 23.0 | Valparaiso     | Copenhagen  | General                | 6,874 | 6,234  | 4,490 |
| Hayre Maru.....             | 22   | 6.00  | 22 | 9.58  | 22 | 17.36 | 22 | 17.36 | Japanese | Osaka Shosen Kaisha               | 407.5 | 50.3 | 22.6 | Singapore      | New York    | General                | 6,874 | 6,234  | 4,490 |
| Karina Luckenbach.....      | 20   | 21.45 | 22 | 13.54 | 22 | 21.36 | 22 | 21.36 | American | Luckenbach Line                   | 460.0 | 57.0 | 25.0 | Vancouver      | Boston      | General                | 4,951 | 8,508  | 6,178 |

\* Motor schooner.

\* Submarine.  
Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

\* For orders.

\* Lumber, shingles, and laths.

\* Barley, canned fruits, flour, and salmon.

## PORT OF CRISTOBAL.

| Date            | Vessel         | From—              | Date            | Vessel            | Line                           | For—                       |
|-----------------|----------------|--------------------|-----------------|-------------------|--------------------------------|----------------------------|
|                 |                |                    |                 |                   |                                |                            |
| October 16..... | Abangarez      | New Orleans        | October 16..... | Cristobal         | Panama Railroad Steamship Line | Norfolk                    |
| October 16..... | Colon          | Buenos Aires       | October 16..... | Abangarez         | United Fruit Co.               | Bocas del Toro             |
| October 16..... | Colon          | New York via Haiti | October 17..... | Gen. W. C. Gorgas | Panama Railroad Steamship Line | New York via Haitian ports |
| October 17..... | Parismina      | Tampico            | October 17..... | Manuel Calvo      | Cia Transatlantica             | Ponce, Porto Rico          |
| October 17..... | Caribbean      | New Orleans        | October 18..... | Herbert G. Wylie  | Pan-American Pet. Transp. Co.  | Tampico                    |
| October 17..... | Caribbean      | Cartagena          | October 18..... | Calamares         | United Fruit Co.               | New York via Port Limon    |
| October 18..... | Calamares      | New York           | October 18..... | Abangarez         | United Fruit Co.               | New Orleans                |
| October 18..... | Van Rensselaer | Amsterdam          | October 19..... | Van Rensselaer    | Royal Netherlands W. I. Mail   | Port Limon                 |
| October 19..... | Abangarez      | Bocas del Toro     |                 |                   |                                |                            |

(Continued on page 184, column 2.)

## Status of The Panama Canal in Accepting Agencies for Steamships.

THE PANAMA CANAL,  
DEPARTMENT OF OPERATION AND MAINTENANCE,  
BALBOA HEIGHTS, C. Z., October 19, 1921.

### MEMORANDUM FOR ALL STEAMSHIP AGENTS:

The Marine Superintendent is in receipt of inquiries from steamship agents with regard to the status of The Panama Canal in accepting agencies for steamships.

The Panama Canal is at all times ready to act as agent for steamships that do not maintain agents on the Isthmus, in which case the offices of the Port Captain at the terminal ports become *ex officio* steamship offices and stand ready to meet the requirements and render assistance to shipmasters, the controlling idea being the care for shipping which on account of any circumstance does not consider an agency necessary.

It is, of course, understood that no official of The Panama Canal is appointed as agent in the way in which the term is ordinarily used, and no official of The Panama Canal is permitted to receive any compensation for such activity as is entailed on the part of The Panama Canal as steamship agent.

E. P. JESSOP,  
*Marine Superintendent.*

### Quick Discharge of Cargo at Canal Piers by Vessels in Transit.

The possibility of vessels in through service handling small transfer shipments of cargo at the Canal piers without much delay was exemplified by the steamer *Cape Henry* on October 17. The vessel passed between the breakwaters at the Atlantic entrance at 9.32 a. m. and 43 minutes later (10.15 a. m.) was tied up alongside the pier at Cristobal. She discharged 1,434 barrels of sulphate of alum, containing 294 tons, consigned to The Panama Canal, and left the pier at 1.11 p. m., having been at dock slightly less than 3 hours. The vessel then started through the Canal and passed the outer buoy in the Pacific at 8.40 p. m.

The *Cape Henry* is operated by the Atlantic, Gulf and Pacific Line and was bound from New York to Los Angeles. The stevedoring was performed by a force employed by the local agent of the line, which was assisted by the regular forces of the Panama Railroad Company on the piers, working through the noon hour in receiving and checking the cargo.

### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended October 22:

Steamships *La Valley*, dock, stage, and clean bottom; scale hull and paint bottom; remove wood block and chock at stem; renew 1' section of forward bulwark plating; 1 section of bottom angle on port side, after end and all of forward bulwark plating and bottom angles on starboard side; install new channel iron rail on forward bulwarks, port and starboard; reenforce bulwarks with 3 plate brackets and 1 stanchion on each side, securing same to bulwarks and deck with rivets; patch plate, starboard side forward, in wake of plate bracket for bulwark; fair up after bulwarks in place and renew bead iron on ends of same; remove wood rail and install new channel iron rail and reenforce bulwarks in wake of chocks with plate brackets, securing to bulwark plating with rivets; renew top and bottom angles, starboard side forward; renew bottom angles, port side forward and around stern; straighten balance of angles; weld all holes through shell in wake of wood fender; patch shell plate on starboard side forward; renew upper wood fender, port and starboard, and secure with vertical fastenings; renew lower wood fender, starboard side forward, and install chafing iron; refasten chafing iron on lower fender where spikes are missing; *Republic*, dock, stage, clean and paint bottom; remove broken propeller and install spare propeller furnished by ship; remove strainers and clean and paint sea chest; file face of tail shaft coupling; repair coupling bolts; plane propeller key; face disk of sea valve; manufacture countersunk screws; *Hwah Ping*, manufacture and install 44 wood bunks, and change location of 22; *Katrina Luckenbach*, renew 25 boiler tubes;

drill barge *Teredo No. 2*, dock, stage, and clean; scale and paint bottom to light load line; barge *No. 148*, dock, stage, and clean; scale and paint bottom to light load line.

## PREVIOUSLY REPORTED.

Launch *Pacific*, general repairs to hull; steamship *Panama*, reboiling and general overhaul to machinery and hull; launch *Wilson B. Gaither*, scrape and clean bottom; perform general hull repairs, survey vessel *Carnegie*, dock, stage, and clean bottom; perform miscellaneous propeller repairs.

The following vessels were at the Cristobal shops for repairs during the week ended October 24:

Steamship *Allianca*, install drain line in boat deck heaters and test out heating system; tug *Tavernilla*, install section of fire hose, grind and reseat safety valves; steamships *Achilles*, remove link in anchor chain next to anchor shackle; furnish 2 stove plates; retin 6 pots; furnish 6 laborers and foreman for cleaning tubes and scaling boilers; barge *No. 123*, dock and undock, clean, scale, and paint; *Georgia*, electric weld No. 1 boiler; *Caribbean*, renew crosshead pin and brasses of No. 2 dynamo; manufacture 1 new spring as sample for No. 1 dynamo; make necessary repairs to forward winch; make pipe repairs as directed by chief engineer; *Salvador*, *Acajutla*, *Parismina*, *Steel Exporter*, and *Sarpfos*, launches *Atlantic* and *Hibiscus*, minor repairs.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending October 22, 1921.

| Name of vessel.   | Line or charterer.                | Arrived.    | Departed.   | Cargo—           |                  |
|-------------------|-----------------------------------|-------------|-------------|------------------|------------------|
|                   |                                   |             |             | Discharged       | Laded.           |
|                   |                                   |             |             | Tons.            | Tons.            |
| Ebro.             | Pacific Steam Navigation Co.      |             | October 16. |                  | 28               |
| Abangarez.        | United Fruit Co.                  | October 16. | October 16. | ( <sup>1</sup> ) | 85               |
| Acajutla.         | Pacific Steam Navigation Co.      | October 16. |             | 92               |                  |
| Essequibo.        | Pacific Steam Navigation Co.      | October 16. | October 17. | 6                | 500              |
| Manuel Calvo.     | Spanish Line.                     | October 16. | October 17. | 171              | 328              |
| Helder.           | Royal Netherlands W. I. Mail.     |             | October 17. |                  | 288½             |
| Colon.            | Panama Railroad Steamship Line.   | October 16. | October 21. | 1,394            | 1,350            |
| Parismina.        | United Fruit Co.                  | October 17. | October 20. | 449              | 332              |
| Herbert G. Wylie. | Pan-American Petroleum Co.        | October 17. | October 18. | 2,579            | ( <sup>2</sup> ) |
| Cape Henry.       | Atl. Gulf & Pacific Steamship Co. | October 17. | October 17. | 275              | ( <sup>2</sup> ) |
| Caribbean.        | Panama Railroad Cattle Industry.  | October 17. | October 20. | 800              | 160              |
| Huasco.           | Chilean Line.                     | October 17. | October 20. | 810              | 515              |
| Georgie.          | French Line.                      | October 18. |             | 18               |                  |
| Urubamba.         | Peruvian Line.                    |             | October 18. |                  | 230              |
| Van Rensselaer.   | Royal Netherlands W. I. Mail.     | October 18. | October 19. | 13               | ( <sup>2</sup> ) |
| Abangarez.        | United Fruit Co.                  | October 19. | October 19. | 10               | 4                |
| Calamares.        | United Fruit Co.                  | October 18. | October 19. | 312              | 163              |
| Tivives.          | United Fruit Co.                  | October 19. | October 20. | 101              | 101              |
| Turrialba.        | United Fruit Co.                  | October 20. | October 20. | 78               | ½                |
| Achilles.         | Panama Railroad Steamship Line.   | October 20. |             | 12,008           |                  |
| Alexandrian.      | Leyland Line.                     | October 20. | October 22. | 492              | 716              |
| Jamaica.          | Pacific Steam Navigation Co.      | October 20. |             | 33               |                  |
| Van Rensselaer.   | Royal Netherlands W. I. Mail.     | October 21. | October 21. | 20               | 226              |
| Haiti.            | French Line.                      | October 21. |             | 15               |                  |
| San Pablo.        | United Fruit Co.                  | October 22. | October 22. | 10               | ( <sup>2</sup> ) |
| Salvador.         | Pacific Steam Navigation Co.      |             | October 22. |                  | 243              |

<sup>1</sup> No cargo discharged.

<sup>2</sup> No cargo laded.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending October 22, 1921.

| Name of vessel. | Line or charterer.                | Arrived.    | Departed.   | Cargo—     |        |
|-----------------|-----------------------------------|-------------|-------------|------------|--------|
|                 |                                   |             |             | Discharged | Laded. |
|                 |                                   |             |             | Tons.      | Tons.  |
| Hwah Ping.      | Chungwa Steamship Co.             | October 18. | October 20. | 147        | 30     |
| Mensabe.        | Pacific Metals Transportation Co. | October 18. | October 20. |            | 58     |
| Huasco.         | South American Steamship Co.      | October 21. | October 21. | 74         | 96     |
| Salvador.       | Pacific Steam Navigation Co.      | October 22. | October 22. |            | 6      |
| Colombia.       | Pacific Mail Steamship Co.        | October 22. | October 23. | 280        |        |
| Jamaica.        | Pacific Steam Navigation Co.      | October 23. | October 23. |            | 27     |







# THE PANAMA CANAL RECORD

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## Quantity of Bunker Coal Allowed Under Ballast Rates of Tolls.

Inquiries are received from time to time as to the quantity of bunker coal which a ship, in ballast, carrying neither cargo nor passengers, may carry through the Panama Canal under the ballast rate for tolls.

The following is quoted from the *Rules and Regulations for the Operation and Navigation of the Panama Canal*:

*Amount of Coal Allowed Vessels in Ballast*—Articles XIII and XIV of the Rules for the Measurement of Vessels for the Panama Canal, set forth what space may be used for carrying coal and other fuel for a vessel's own use without payment of tolls for the space so occupied.

The rules are liberal in making ample provision for such space and authorize the owner of the vessel to select either of the two provisions that he may elect as set forth in the rules. Full tolls are levied on loaded vessels and reduced tolls on those in ballast, and in order that there may be no misunderstanding vessels will be considered *in ballast* only when they carry no passengers and do not carry either coal or merchandise of any description in any quantity whatsoever except bunker coal or other fuel for their own use. In order that they may be entitled to claim the reduced or *ballast rate* the amount of bunker coal or other fuel must not exceed in volume the allowance specified in The Panama Canal certificate as the deduction for bunker space. For convenience this allowance for volume is expressed in long tons weight at the bottom of page 2, on all certificates issued, checked, or corrected at the Canal.

*In any case in which the amount of coal on board exceeds the deductible allowance, the vessel will be charged full tolls.*

In any case in which coal be carried as a deck load, for the vessel's own consumption, or even though it be within the deductible allowance it will be subject to measurement and charge, the rate depending upon whether or not the vessel be considered in ballast or loaded.

If when carrying a deck load of coal for her own use she carries no passengers or freight, and the amount of coal on board be within the deductible allowance, she may be considered in ballast.

Vessels that wish to benefit by the reduced or ballast rate of tolls should be very careful not to carry more than the deductible allowance under the rules.

On arrival, vessels, claiming to be in ballast must have ready a statement of their coal account, to which the master may be required to take oath. In case coal be carried outside of the regular bunkers, both it and that carried in the bunkers should be piled or arranged in a fairly uniform way so that it may be readily measured.

The bunker allowance, referred to in the foregoing, is arrived at by this rule: Take three-fourths of the total volume of space of engine and boiler rooms, in cubic feet, and divide this number by 40 in the case of coal, 37.7 in the case of oil; the result is the number of long tons (2,240 pounds) allowed as bunkers. For example, if a vessel had a total of 80,000 cubic feet in engine and boiler rooms, three-fourths would be 60,000; divided by 40 would give 1,500, the number of long tons of coal, divided by 37.7 would give 1,592 (to nearest ton), the number of long tons of oil, allowed as bunkers.

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### Parlor Car Service.

Effective at close of business on October 31, 1921, parlor car service was discontinued on all regular Panama Railroad passenger trains.

Chair cars will be available for use on steamer trains and for other special service.

# MOVEMENTS OF OCEAN VESSELS. *Week ending at midnight, October 29, 1921.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                       | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                                | Length. | Beam. | Water draft. | From—              | For—               | Cargo.                   |       | Panama Canal tonnage. |       |
|-----------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|--------------------------------------|---------|-------|--------------|--------------------|--------------------|--------------------------|-------|-----------------------|-------|
|                             | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                      |         |       |              |                    |                    | Nature.                  | Tons. | Gross.                | Net.  |
| Acajutla.....               | 16               | 18 15 | 23             | 6 12  | 23                 | 14 00 | 23               | 16 00 | British.     | Pacific Steam Navigation Co.....     | 215 0   | 33 0  | 15 9         | Cristobal.....     | Champerico.....    | General.....             | 984   | 1,273                 | 706   |
| Jamaica.....                | 20               | 11 10 | 23             | 6 00  | 23                 | 14 02 | 23               | 16 00 | British.     | Pacific Steam Navigation Co.....     | 220 0   | 34 0  | 13 8         | Pto. Colombia..... | Tumaco.....        | Salt and general.....    | 525   | 1,187                 | 692   |
| Georgie.....                | 18               | 9 00  | 23             | 7 30  | 23                 | 16 22 | 23               | 17 40 | French.      | Cia. Cie. Transatlantico.....        | 422 0   | 52 0  | 20 0         | Hayre.....         | Guayaquil.....     | General.....             | 161   | 6,830                 | 4,932 |
| West Chokila.....           | 22               | 21 26 | 23             | 8 45  | 23                 | 17 15 | 23               | 18 30 | American.    | Thorndyke & Frohnlone (S. B.).....   | 411 0   | 54 0  | 20 0         | Baltimore.....     | Seattle.....       | Coal.....                | 4,876 | 9,632                 | 4,882 |
| Florida.....                | 23               | 1 35  | 23             | 9 35  | 23                 | 17 16 | 23               | 18 40 | American.    | Western Transport Co.....            | 246 0   | 42 0  | 20 0         | New Orleans.....   | Seattle.....       | General.....             | 2,600 | 2,436                 | 1,662 |
| Hokkai Maru.....            | 23               | 9 20  | 23             | 10 27 | 23                 | 18 15 | 23               | 19 59 | Japanese.    | Taiso Kaitun Kaisha.....             | 370 0   | 50 0  | 13 2         | Swansea.....       | Portland, Ore..... | Ballast.....             | 4,923 | 3,402                 |       |
| Patuxent.....               | 24               | 6 20  | 24             | 6 20  | 24                 | 14 15 | 24               | 19 32 | American.    | United States Navy.....              | 156 0   | 24 0  | 15 0         | Cristobal.....     | Bahia.....         | Coffee, general.....     | 4,997 | 3,659                 | 4,174 |
| Pallas.....                 | 24               | 12 01 | 24             | 7 45  | 24                 | 15 02 | 24               | 17 55 | British.     | Wayne & Hoyt (S. B.).....            | 380 0   | 53 0  | 23 8         | Buenos Aires.....  | San Francisco..... | Ballast.....             | 7,043 | 5,562                 |       |
| Pilar de Larrinaga.....     | 24               | 12 01 | 24             | 7 45  | 24                 | 15 02 | 24               | 17 55 | British.     | Miruel de Larrinaga S. S. Co.....    | 445 0   | 58 0  | 19 0         | Immingham.....     | Astoria.....       | General.....             | 1,548 | 6,014                 | 4,494 |
| Dientes.....                | 23               | 16 46 | 24             | 10 06 | 24                 | 16 51 | 24               | 18 00 | British.     | Pacific Steam Navigation Co.....     | 390 0   | 50 0  | 20 0         | Liverpool.....     | Valparaiso.....    | General.....             | 7,800 | 7,539                 | 5,448 |
| Chatanooga.....             | 25               | 14 03 | 26             | 6 19  | 26                 | 14 17 | 26               | 15 31 | American.    | United States Steel Products Co..... | 424 0   | 56 0  | 26 0         | New Orleans.....   | Yokohama.....      | General.....             | 4,769 | 7,016                 | 5,078 |
| Sussex.....                 | 26               | 10 05 | 26             | 10 35 | 26                 | 18 00 | 26               | 19 10 | British.     | Federal Steam Navigation Co.....     | 420 0   | 54 0  | 25 6         | Montreal.....      | New Zealand.....   | General.....             | 5,863 | 6,009                 | 5,147 |
| Yuri Maru.....              | 26               | 10 35 | 26             | 11 00 | 26                 | 18 43 | 26               | 19 45 | Japanese.    | Kokusal Kisen Kabushiki Kaisha.....  | 425 0   | 54 0  | 23 0         | New York.....      | Portland.....      | General.....             | 7,070 | 7,539                 | 5,448 |
| Tsacalosa City.....         | 26               | 18 30 | 27             | 6 19  | 27                 | 14 10 | 27               | 15 20 | American.    | Isthmian Steamship Line.....         | 424 0   | 56 0  | 23 0         | Baltimore.....     | Tokio.....         | General.....             | 6,500 | 8,552                 | 6,236 |
| K. I. Lucken.....           | 26               | 18 55 | 27             | 7 15  | 27                 | 15 01 | 27               | 16 05 | American.    | Luckenbach Line.....                 | 446 0   | 56 0  | 24 5         | Philadelphia.....  | San Francisco..... | General.....             | 3,600 | 9,134                 | 7,033 |
| Tach.....                   | 27               | 8 32  | 27             | 9 05  | 27                 | 16 02 | 27               | 16 56 | American.    | American Hawaiian Line.....          | 471 0   | 57 0  | 19 8         | New York.....      | Los Angeles.....   | General.....             | 1,330 | 800                   | 391   |
| Sonraep.....                | 27               | 11 15 | 27             | 12 18 | 27                 | 19 35 | 28               | 15 25 | British.     | The General Works Const. Co.....     | 193 0   | 32 0  | 12 0         | Rotterdam.....     | Valparaiso.....    | Ballast.....             | 7,070 | 7,539                 | 5,448 |
| Ulysses.....                | 26               | 17 08 | 28             | 6 09  | 28                 | 14 18 | 28               | 15 30 | Dutch.       | Royal Netherlands W. Mail.....       | 368 0   | 53 0  | 14 6         | Hamburg.....       | Guayaquil.....     | General.....             | 4,769 | 7,016                 | 5,078 |
| Yavoi Maru.....             | 27               | 14 33 | 28             | 7 25  | 28                 | 15 10 | 28               | 16 54 | Japanese.    | Kokusal Kisen Kabushiki Kaisha.....  | 400 0   | 53 0  | 15 0         | Cardiff.....       | Portland, Ore..... | Ballast.....             | 5,863 | 6,009                 | 5,147 |
| Chile.....                  | 27               | 17 25 | 28             | 8 55  | 28                 | 15 50 | 28               | 16 45 | Danish.      | East Asiatic Co.....                 | 425 0   | 52 0  | 22 6         | Antwerp.....       | Los Angeles.....   | General.....             | 7,070 | 7,539                 | 5,448 |
| George Wash-<br>ington..... | 27               | 20 57 | 28             | 9 28  | 28                 | 16 41 | 28               | 17 35 | Norwegian.   | Fred Olsen & Co.....                 | 444 0   | 56 0  | 17 0         | Antwerp.....       | Los Angeles.....   | General.....             | 3,800 | 7,505                 | 5,027 |
| Hualaga.....                | 23               | 13 41 | 28             | 11 06 | 28                 | 18 07 | 28               | 20 55 | Peruvian.    | Peruvian Steamship Line.....         | 360 0   | 45 0  | 21 0         | Cristobal.....     | Mollendo.....      | General.....             | 4,402 | 4,514                 | 2,386 |
| Agwilda.....                | 29               | 12 06 | 29             | 6 34  | 29                 | 14 00 | 29               | 15 05 | American.    | Malloy Shipping Co.....              | 370 0   | 53 0  | 25 8         | New Orleans.....   | Seattle.....       | General.....             | 5,932 |                       |       |
| S. C. 284.....              | 29               | 1 30  | 29             | 11 43 | 29                 | 18 35 | 29               | 20 00 | American.    | United States Navy.....              | 234 0   | 39 0  | 14 0         | Cristobal.....     | Bahua.....         | General.....             | 55    | 2,036                 | 1,457 |
| Granfos.....                | 29               | 1 30  | 29             | 11 43 | 29                 | 18 35 | 29               | 20 00 | Norwegian.   | Thor. Thoresen, Jr.....              | 381 0   | 49 0  | 22 8         | New York.....      | Guayaquil.....     | General.....             | 2,200 | 5,926                 | 4,178 |
| Enador.....                 | 29               | 6 20  | 29             | 12 52 | 29                 | 19 27 | 30               | 13 25 | American.    | Pacific Mail Steamship Co.....       | 381 0   | 49 0  | 22 8         | Baltimore.....     | San Francisco..... | General.....             | 7,062 | 9,530                 | 6,882 |
| Westmeath.....              | 29               | 13 00 | 29             | 13 10 | 29                 | 21 09 | 29               | 22 23 | British.     | Union Shipping Co.....               | 475 0   | 56 0  | 28 6         | London.....        | Auckland.....      | General, explosives..... |       |                       |       |

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

\* Tug. \* Motor ship.

| Ship.               | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Water draft. | From—              | For—           | Cargo.             |        | Panama Canal tonnage. |       |
|---------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|--------------|--------------------|----------------|--------------------|--------|-----------------------|-------|
|                     | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |              |                    |                | Nature.            | Tons.  | Gross.                | Net.  |
| Colombia.....       | 22               | 14 21 | 23             | 6 46  | 23                 | 14 07 | 24               | 12 04 | American.    | Pacific Mail Steamship Co.....   | 380 0   | 48 7  | 24 2         | San Francisco..... | Baltimore..... | General.....       | 2,330  | 6,015                 | 4,281 |
| Hualaga.....        | 23               | 6 25  | 23             | 8 24  | 23                 | 15 41 | 28               | 11 06 | Peruvian.    | Peruvian Steamship Co.....       | 360 0   | 44 7  | 21 6         | Callao.....        | Cristobal..... | General.....       | 1,910  | 4,514                 | 2,386 |
| Toyohashi Maru..... | 23               | 6 30  | 23             | 9 25  | 23                 | 16 57 | 23               | 16 57 | Japanese.    | Nippon Yusen Kaisha.....         | 445 0   | 58 0  | 24 4         | Yokohama.....      | London.....    | Canned salmon..... | 10,806 | 7,665                 | 5,529 |
| Oriana.....         | 23               | 12 08 | 23             | 13 47 | 23                 | 20 30 | 24               | 18 05 | British.     | Pacific Steam Navigation Co..... | 465 7   | 56 2  | 24 5         | Coronel.....       | Liverpool..... | (v)                | 4,097  | 8,650                 | 5,345 |

\* Cotton, metals, and oil cake.



|                |    |    |    |    |    |    |    |    |    |    |    |    |            |                                    |     |   |    |   |    |   |                |                |                    |                    |       |       |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|------------|------------------------------------|-----|---|----|---|----|---|----------------|----------------|--------------------|--------------------|-------|-------|
| West Wind      | 23 | 16 | 20 | 24 | 6  | 34 | 24 | 15 | 45 | 27 | 11 | 20 | American   | U. S. and Australian Line (S. B.). | 410 | 0 | 54 | 2 | 18 | 0 | Wellington.    | Boston         | General.           | 2,200 <sup>1</sup> | 6,613 | 4,938 |
| Lehigh         | 23 | 17 | 47 | 24 | 7  | 46 | 24 | 14 | 38 | 24 | 14 | 38 | American   | N. Atl. & West. S. Co. (S. B.).    | 390 | 0 | 54 | 2 | 18 | 6 | Portland, Ore. | Portland, Me.  | General.           | 1,625              | 6,105 | 4,346 |
| Santa Teresa   | 24 | 0  | 30 | 24 | 9  | 03 | 24 | 15 | 52 | 24 | 22 | 05 | American   | W. R. Grace & Co.                  | 360 | 0 | 51 | 0 | 22 | 8 | Talcahuano.    | New York       | General.           | 2,376              | 5,726 | 4,086 |
| West Greybeak  | 24 | 0  | 45 | 24 | 9  | 39 | 24 | 17 | 40 | 29 | 11 | 10 | American   | Williams-Dimond Co. (S. B.).       | 430 | 7 | 54 | 0 | 27 | 0 | Bellingham.    | Antwerp        | General.           | 8,100              | 7,946 | 5,698 |
| Sarples        | 24 | 10 | 24 | 10 | 56 | 24 | 18 | 30 | 25 | 19 | 42 | 10 | Norwegian. | Thor. Thoresen                     | 254 | 8 | 39 | 0 | 15 | 0 | Guayaquil      | New York       | Coffee, cocoa, etc | 904                | 2,064 | 1,479 |
| Asworth        | 23 | 14 | 20 | 24 | 11 | 50 | 24 | 19 | 41 | 24 | 19 | 41 | British.   | R. S. Dainton                      | 400 | 0 | 52 | 3 | 26 | 0 | Portland.      | Cork           | Wheat.             | 7,258              | 5,732 | 3,991 |
| Saint Andre.   | 24 | 14 | 30 | 25 | 7  | 46 | 25 | 15 | 08 | 27 | 16 | 23 | French.    | Cie. Gle. Transatlantique          | 397 | 9 | 50 | 0 | 22 | 0 | Talcahuano.    | La Havre.      | (s)                | 4,250              | 5,917 | 4,146 |
| Coderie.       | 24 | 20 | 15 | 25 | 7  | 46 | 25 | 16 | 01 | 25 | 17 | 01 | Norwegian. | Det. Salmerste Rederi              | 338 | 5 | 48 | 0 | 23 | 0 | Valparaiso.    | Hamburg.       | Nitrate, general   | 5,450              | 4,113 | 3,071 |
| Leura C. Hall. | 25 | 9  | 55 | 26 | 6  | 20 | 26 | 15 | 03 | 27 | 16 | 25 | British.   | Pacific Metals Corporation         | 81  | 0 | 55 | 6 | 10 | 0 | Buenaventura.  | Cristobal      | Coffee, platinum.  | 61                 | 132   | 72    |
| Tactician.     | 25 | 21 | 00 | 26 | 7  | 55 | 26 | 15 | 12 | 27 | 16 | 25 | British.   | Thos. & James Harrison             | 470 | 0 | 50 | 8 | 26 | 0 | San Diego.     | London.        | General.           | 8,995              | 7,740 | 5,705 |
| Minnequa.      | 26 | 4  | 00 | 26 | 8  | 34 | 26 | 16 | 40 | 26 | 18 | 45 | American.  | Wessel-Duval (S. B.).              | 390 | 0 | 54 | 2 | 26 | 0 | San Francisco. | Baltimore.     | Nitrate.           | 7,400              | 6,105 | 4,355 |
| Orient City    | 26 | 8  | 00 | 26 | 9  | 37 | 26 | 18 | 05 | 26 | 18 | 45 | British.   | W. R. Smith & Co.                  | 396 | 5 | 53 | 5 | 24 | 0 | Portland.      | Hull.          | Wheat.             | 7,700              | 5,682 | 4,229 |
| Liverpool Maru | 26 | 8  | 15 | 26 | 10 | 26 | 26 | 18 | 40 | 26 | 18 | 45 | Japanese.  | Kokusa Kisen Kabushiki Kaisha      | 385 | 0 | 51 | 0 | 26 | 0 | Portland.      | Norfolk.       | Wheat.             | 7,683              | 5,919 | 4,400 |
| Bellflower.    | 26 | 19 | 40 | 27 | 6  | 26 | 27 | 13 | 40 | 27 | 14 | 40 | American.  | Barber Lines (S. B.).              | 385 | 5 | 51 | 0 | 26 | 0 | Portland.      | New York.      | General.           | 5,356              | 6,841 | 4,816 |
| Kumete.        | 26 | 19 | 00 | 27 | 8  | 01 | 27 | 13 | 41 | 27 | 14 | 40 | American.  | Andrew Weir & Co.                  | 395 | 5 | 55 | 2 | 26 | 0 | Kobe.          | Alexandria.    | Nitrate.           | 7,500              | 8,236 | 6,256 |
| Garfield.      | 26 | 21 | 00 | 27 | 8  | 35 | 27 | 13 | 41 | 27 | 14 | 40 | American.  | Grace Line, Inc.                   | 460 | 0 | 55 | 1 | 27 | 0 | Teopilla.      | New York.      | Nitrate, cotton    | 2,435              | 3,228 | 2,010 |
| Ravenrock.     | 27 | 8  | 15 | 27 | 10 | 38 | 27 | 13 | 40 | 27 | 20 | 55 | British.   | British Admiralty.                 | 390 | 0 | 51 | 3 | 24 | 0 | Valparaiso.    | Hampton Roads. | Barley.            | 6,217              | 5,374 | 3,783 |
| Natal.         | 27 | 10 | 50 | 27 | 11 | 52 | 27 | 13 | 40 | 27 | 20 | 55 | Danish.    | Orient Steamship Co.               | 360 | 2 | 51 | 1 | 23 | 0 | Portland.      | Copenhagen.    | General.           | 5,965              | 4,670 | 3,303 |
| Manavi.        | 27 | 10 | 50 | 27 | 12 | 57 | 27 | 20 | 00 | 27 | 20 | 55 | Danish.    | Pacific Steam Navigation Co.       | 216 | 0 | 35 | 1 | 12 | 6 | Guayaquil      | Cristobal.     | (s)                | 438                | 1,357 | 884   |
| Benarines.     | 27 | 11 | 25 | 27 | 13 | 42 | 27 | 21 | 13 | 28 | 12 | 45 | British.   | Ben Line Steamers, Ltd             | 405 | 0 | 51 | 3 | 23 | 0 | Portland.      | Venice.        | Wheat.             | 6,587              | 5,097 | 3,476 |
| Muskebe.       | 27 | 15 | 28 | 29 | 6  | 44 | 28 | 13 | 45 |    |    |    | Panama.    | Choco Pacific-Amer. Co             | 102 | 6 | 24 | 0 | 11 | 0 | Sea.           | Cristobal.     |                    |                    | 199   | 120   |
| Patuxent.      | 28 | 23 | 09 | 29 | 10 | 02 | 29 | 16 | 07 |    |    |    | American.  | United States Navy                 | 156 | 0 | 24 | 0 | 15 | 0 | Cape Mala.     | Cristobal.     |                    |                    | 199   | 120   |

\* For orders.

\* Cotton, beans, and skins.

\* Wheat, barley, dried fruit, and cottonseed cake.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS.  |                       |                                  |                      |             |                 |                  |                          |  |  | *DEPARTURES. |          |                                  |                           |  |  |  |  |  |  |
|-------------|-----------------------|----------------------------------|----------------------|-------------|-----------------|------------------|--------------------------|--|--|--------------|----------|----------------------------------|---------------------------|--|--|--|--|--|--|
| Date.       | Vessel.               | Line.                            | From—                | Date.       | Vessel.         | Line.            | For—                     |  |  | Date.        | Vessel.  | Line.                            | For—                      |  |  |  |  |  |  |
| October 23. | Metapan.              | United Fruit Co.                 | New Orleans.         | October 23. | Metapan.        | United Fruit Co. | Bocas del Toro.          |  |  | October 23.  | Metapan. | United Fruit Co.                 | Bocas del Toro.           |  |  |  |  |  |  |
| October 23. | S. M. Spalding.       | Pan-Amer. Pet. and Transp. Co.   | Tampico.             | October 23. | Metapan.        | Alexandrian.     | Leyland Line.            |  |  | October 24.  | Metapan. | French Line.                     | Saint Nazaire via Puerto  |  |  |  |  |  |  |
| October 24. | Alliance.             | Panama Railroad Steamship Line.  | New York via Haiti.  | October 24. | Haiti.          | Haiti.           | Colombia.                |  |  | October 24.  | Metapan. | Pan-Amer. Pet. and Transp. Co.   | Tampico.                  |  |  |  |  |  |  |
| October 25. | Heredia.              | United Fruit Co.                 | New Orleans.         | October 25. | S. M. Spalding. | S. M. Spalding.  | New York.                |  |  | October 25.  | Metapan. | United States Government.        | New York.                 |  |  |  |  |  |  |
| October 26. | Metapan.              | United Fruit Co.                 | Bocas del Toro.      | October 26. | St. Michel.     | St. Michel.      | New Orleans.             |  |  | October 26.  | Metapan. | United Fruit Co.                 | New Orleans.              |  |  |  |  |  |  |
| October 26. | Caribbean.            | Panama Railroad Cattle Industry. | Habana.              | October 26. | Heredia.        | Heredia.         | New Orleans.             |  |  | October 27.  | Metapan. | United Fruit Co.                 | New Orleans via Bocas del |  |  |  |  |  |  |
| October 27. | Presidente Sarmiento. | Argentine Government.            | Port Limon.          | October 27. | Heredia.        | Heredia.         | Toro.                    |  |  | October 27.  | Metapan. | Panama Railroad Steamship Line.  | New York.                 |  |  |  |  |  |  |
| October 27. | Grelosa.              | Gold Steamship Industrial Co.    | New York via Habana. | October 28. | Alliance.       | Alliance.        | New York via Port Limon. |  |  | October 28.  | Metapan. | Elders & Fyffes, Ltd.            | Kingston.                 |  |  |  |  |  |  |
| October 28. | Pastores.             | United Fruit Co.                 | Port Limon.          | October 28. | Pastores.       | Pastores.        | Puerto Colombia.         |  |  | October 29.  | Metapan. | Panama Railroad Cattle Industry. | Puerto Colombia.          |  |  |  |  |  |  |
| October 29. | Camito.               | Elders & Fyffes, Ltd.            | Port Limon.          | October 29. | Caribbean.      | Caribbean.       |                          |  |  | October 29.  | Metapan. | Kokusa Kisen Kaishiki Kaisha.    | Calao.                    |  |  |  |  |  |  |

## PORT OF BALBOA.

| Date.       | Vessel.     | Line.  | From—                         | Date.       | Vessel.     | Line.                         | For—   |
|-------------|-------------|--------|-------------------------------|-------------|-------------|-------------------------------|--------|
| October 27. | Taiho Maru. | Tasoma | Kokusa Kisen Kaishiki Kaisha. | October 27. | Taiho Maru. | Kokusa Kisen Kaishiki Kaisha. | Calao. |

\* Other than ships passing through the Canal.

## Cash Balance in Appropriations, September, 1921.

BALBOA HEIGHTS, C. Z., October 29, 1921.

The Honorable, the Secretary of War,  
Washington, D. C.

SIR: Herewith is a report showing the commissary sales, financial receipts and expenditures, and of the cash balance available in The Panama Canal appropriations for the month of September, 1921, as compared with the preceding month, and with the corresponding month of last year:

|                                                                                                         | September, 1921. | August, 1921.   | September, 1920. |
|---------------------------------------------------------------------------------------------------------|------------------|-----------------|------------------|
| Cash balance available for expenditure:                                                                 |                  |                 |                  |
| In Canal appropriations.....                                                                            | \$13,194,484.17  | \$13,754,717.93 | \$17,453,227.75  |
| Payments made from appropriations:                                                                      |                  |                 |                  |
| By Paymaster on the Isthmus.....                                                                        | 1,138,288.01     | 1,139,592.07    | 1,720,992.08     |
| By Disbursing Clerk, Washington, D. C.....                                                              | 289,114.62       | 334,921.39      | 655,886.44       |
| To the Panama Railroad Company (for commissary books).....                                              | 217,855.02       | 224,170.75      | 368,653.07       |
| Collections on the Isthmus:                                                                             |                  |                 |                  |
| Repaid to appropriations.....                                                                           | 743,231.35       | 807,211.41      | 633,022.48       |
| Commissary and other trust funds.....                                                                   | 219,523.57       | 225,572.23      | 371,229.35       |
| Tolls.....                                                                                              | 892,004.99       | 955,404.98      | 1,003,531.38     |
| Sales of water.....                                                                                     | 6,526.35         | 2,240.65        |                  |
| Postal receipts.....                                                                                    | 9,422.48         | 8,818.81        | 10,253.35        |
| Licenses, taxes, court fees, fines, etc.....                                                            | 2,995.67         | 3,250.24        | 4,218.20         |
| Sales of obsolete material.....                                                                         |                  | 100.00          | 2,026.40         |
| Total collections on Isthmus.....                                                                       | 1,873,704.41     | 2,002,598.32    | 2,024,281.16     |
| Collections by Disbursing Clerk, Washington.....                                                        | 17,710.65        | 2,133.07        | 30,441.52        |
| Deposits with Assistant Treasurer, United States.....                                                   | 63,800.00        | 68,000.00       | 62,200.00        |
| Canal Zone and miscellaneous funds:                                                                     |                  |                 |                  |
| Receipts—                                                                                               |                  |                 |                  |
| Money order funds.....                                                                                  | 112,226.12       | 100,961.93      | 131,929.46       |
| Clubhouse funds.....                                                                                    | 30,372.67        | 35,698.27       | 32,126.54        |
| Interest.....                                                                                           | 1,685.31         | 1,505.79        |                  |
| Trust funds.....                                                                                        | 865.85           | 401.50          | 2,894.00         |
| Total receipts.....                                                                                     | 145,149.95       | 138,567.49      | 166,950.00       |
| Disbursements—                                                                                          |                  |                 |                  |
| Money order funds.....                                                                                  | 194,900.00       | 195,525.14      | 176,610.00       |
| Clubhouse funds.....                                                                                    | 31,964.56        | 33,219.65       | 31,408.64        |
| Interest.....                                                                                           | 729.95           | 1,024.84        | 651.84           |
| Trust funds.....                                                                                        | 1,483.22         | 1,351.47        |                  |
| Total disbursements.....                                                                                | 229,077.73       | 231,121.10      | 208,670.48       |
| Pay roll on the Isthmus:                                                                                |                  |                 |                  |
| Maintenance and operation.....                                                                          | 738,039.99       | 817,464.84      | 1,226,025.28     |
| Sanitation.....                                                                                         | 76,484.55        | 81,278.61       | 81,055.70        |
| Civil Government.....                                                                                   | 51,179.77        | 51,695.94       | 51,396.66        |
| Total.....                                                                                              | 865,704.31       | 950,439.39      | 1,358,477.64     |
| Requisitions for purchases in the United States.....                                                    | 45,761.19        | 42,797.44       | 689,920.65       |
| Sales of commissary supplies:                                                                           |                  |                 |                  |
| To The Panama Canal.....                                                                                | 89,607.78        | 100,250.39      | 126,391.28       |
| To steamships, other than those of the United States Government and Panama Railroad Steamship Line..... | 24,164.05        | 30,960.06       | 108,767.28       |
| To Panama Railroad, including its steamships, and Hotel Washington.....                                 | 16,365.64        | 19,356.96       | 33,342.86        |
| To the United States Government, including the Army and Navy.....                                       | 107,729.74       | 178,585.33      | 119,448.52       |
| To individuals and companies through charge accounts.....                                               | 20,478.68        | 21,835.81       | 22,973.55        |
| To individuals purchasing coupons.....                                                                  | 329,571.42       | 370,094.79      | 549,850.11       |
| Total.....                                                                                              | 587,917.31       | 721,083.34      | 960,773.60       |

\* Balance on last day of month.

Respectfully,

M. L. WALKER,  
Acting Governor.

## Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States "Pancanal, Washington."



### Heavy Shipments from the Pacific Coast to Europe.

There has been an unusually heavy movement of cargo from the west coast of the United States to Europe during the quarter ending September 30, 1921, aggregating 573,083 tons, as compared with 243,374 tons during the corresponding quarter of 1920. Wheat and barley contributed the bulk of this tonnage.

The cargo moving in the opposite direction from Europe to the west coast of the United States amounted to 32,985 tons, as compared with 37,572 tons in the corresponding quarter of the previous year.

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### American-Hawaiian Vessels in European-Pacific Line Service.

Preliminary announcement that the service known as the European-Pacific Line will be operated with the American-Hawaiian Steamship Company's own steamers, beginning in October, was published in THE PANAMA CANAL RECORD of August 31. Later statements from the company announce the first sailing in the new schedule as that of the steamship *Floridian*, leaving San Francisco about October 23 for Havre, London, Hamburg, Antwerp, and Liverpool. The next vessel out in the service is to be the *Pennsylvanian*, sailing about November 19 from Tacoma, Seattle, Portland, San Francisco, and Los Angeles for Liverpool, Glasgow, Hamburg, Antwerp, and London.

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### Shipments of Eggs.

Eggs, fresh, frozen and dried, aggregating 3,448 tons, made up the greater part of the 4,392 tons of cargo aboard the Blue Star Line steamship *Gothic Star*, passing through the Canal on October 4, on the way from Chinese ports, via San Francisco, to New York and London. Ninety-four tons of frozen eggs were shipped from San Francisco to London, and 465 tons of fresh eggs, from Nanking and Shanghai, were bound for London. New York was the destination of 2,625 tons of frozen and 264 tons of dried eggs, shipped from Hankow and Nanking.

On November 4 of last year the *Tuscan Star* of the same line carried a whole cargo of 6,200 tons of frozen eggs, through the Canal on the way from Chinese ports to New York.

In September, 1921, a shipment of 29 tons of eggs in cold storage, was carried through the Canal on the steamship *Henry S. Grove*, from Pacific ports of the United States to north Atlantic ports of the United States.

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### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended October 29:

Steamship *West Cahokia*, remove high-pressure piston rod; true up and reinstall same; run line through H. P. cylinder and check alignment with crosshead; refit H. P. crosshead brasses; furnish 1 set of packing for H. P. piston rod; braze 5 leaking journal bearing oil cups; renew suction and discharge valve collars in line bilge pump; weld 1 coil in Cohn oil heater; dredge *No. 84*, renew rivets in ladder; renew wearing ring on ladder head; manufacture and install keeper for ladder head packing gland; refasten casting at gooseneck; ream hole in coupling on cutter; take a cut off valve seat and grind in new valves on salt water pump; U. S. S. *Ashville*, manufacture bushings and spiral pinion shaft.

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### PREVIOUSLY REPORTED.

Launch *Wilson B. Gaither*, scrape and clean bottom; perform general hull repairs; barge *No. 138*, dock, stage, and clean; scale and paint bottom to light load line;

drill boat *Teredo No. 2*, dock, stage, and clean; scale and paint bottom to light load line; launch *Pacific*, general repairs to hull; steamships *La Valley*, dock, stage, and clean bottom; perform miscellaneous hull and fender repairs; *Panama*, reboiling and general repairs to machinery and hull.

The following vessels were at the Cristobal shops for repairs during the week ended October 31:

Steamships *West Greylock*, remove H. P. piston and rod; check alignment of cylinder and crosshead; manufacture 1 set of H. P. rings; *Huallaga*, electric weld inboard ends of hawse pipes; *West Wind*, rebore auxiliary feed pump valve chamber and install new rings; remetal and machine spare crank brasses for dynamo; install spare armature; patch filter box; *Caribbean*, overhaul injector; repair dynamo and forward winch; *Argyll*, manufacture, fit, and install 1 hand steering wheel; renew wedges around mainmast; repair steam pipe to winch; blank off and plug 4 holes in ship's side; *Ampai*, manufacture, fit, and install new rudder; install asbestos lining on boilers, install inside row of tubes in both boilers; repair sea valves, etc.; tug *Mensabe*, dock; calk hull planking; renew section of keel, repair rudder, etc.; motor schooner *Laura C. Hall*, dock; examine strut bearing; install 2 knees under beams in ship's hold; manufacture and install lead pipe scuppers; make strainer; clean and paint bottom, etc.; steamship *Heredia*, launches *Esperanza*, *Wilhelm*, and *Mary B*, minor repairs.

#### PREVIOUSLY REPORTED.

Steamships *Balboa*, renew lagging and jacket on boiler where necessary, etc.; *Allianca*, test out heating system; launch *Gloriana*, dock; repair hull, awnings, engines, etc.; barge *No. 123*, dock; clean, scale, and paint.

#### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending October 29, 1921.

| Name of vessel.          | Line or charterer.                  | Arrived.        | Departed.       | Cargo—           |                  |
|--------------------------|-------------------------------------|-----------------|-----------------|------------------|------------------|
|                          |                                     |                 |                 | Discharged       | Laded.           |
|                          |                                     |                 |                 | Tons.            | Tons.            |
| Acajutla.....            | Pacific Steam Navigation Co.....    | October 23..... | October 23..... |                  | 987              |
| Jamaica.....             | Pacific Steam Navigation Co.....    | October 23..... | October 23..... |                  | 48               |
| Metapan.....             | United Fruit Co.....                | October 23..... | October 23..... | ( <sup>1</sup> ) | 4                |
| Duendes.....             | Pacific Steam Navigation Co.....    | October 23..... | October 24..... | ( <sup>2</sup> ) | 34               |
| Colombia.....            | Pacific Mail Steamship Co.....      | October 23..... | October 24..... | 179              | ( <sup>2</sup> ) |
| Haiti.....               | French Line.....                    | October 23..... | October 24..... |                  | 483              |
| S. M. Spalding.....      | Pan-Amer. Pet. and Transp. Co.....  | October 23..... | October 25..... | 9,500            | ( <sup>2</sup> ) |
| Huallaga.....            | Peruvian Line.....                  | October 23..... | October 25..... | 1,914            | 403              |
| Sarplos.....             | Caribbean Steamship Co.....         | October 24..... | October 25..... | 158              | 1,378            |
| Allianca.....            | Panama Railroad Steamship Line..... | October 24..... | October 28..... | 1,320            | 139              |
| Saint Andre.....         | French Line.....                    | October 25..... | October 27..... |                  | 39               |
| Heredia.....             | United Fruit Co.....                | October 25..... | October 27..... | 849              | 82               |
| Caribbean.....           | Panama Railroad Steamship Line..... | October 26..... | October 29..... | 680              | 2                |
| Metapan.....             | United Fruit Co.....                | October 26..... | October 26..... | 289              | ( <sup>2</sup> ) |
| Ulysses.....             | Royal Netherlands W. I. Mail.....   | October 26..... | October 28..... | 61               | 237              |
| Laura C. Hall.....       | Pacific Metals Corporation.....     | October 26..... | October 27..... | ( <sup>1</sup> ) | 50               |
| Tactician.....           | Harrison Line.....                  | October 26..... | October 27..... |                  | 436              |
| Grelrosa.....            | Pacific Steam Navigation Co.....    | October 27..... | October 27..... |                  | 134              |
| Manavi.....              | Pacific Steam Navigation Co.....    | October 27..... | October 28..... |                  | 5                |
| Chile.....               | East Asiatic Co.....                | October 27..... | October 28..... |                  | 243              |
| Pastores.....            | United Fruit Co.....                | October 28..... | October 28..... |                  | 50               |
| Camito.....              | Elders & Fyffes, Ltd.....           | October 29..... | October 29..... |                  | 137              |
| Granfos.....             | Caribbean Steamship Line.....       | October 29..... | October 29..... |                  | ( <sup>1</sup> ) |
| Ecuador.....             | Pacific Mail Steamship Co.....      | October 29..... | October 29..... |                  | 160              |
| Gen. G. W. Goethals..... | Panama Railroad Steamship Line..... | October 29..... | October 29..... |                  | 969              |

<sup>1</sup> No cargo discharged.

<sup>2</sup> No cargo laded.

#### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending October 29, 1921.

| Name of vessel. | Line or charterer.               | Arrived.        | Departed.       | Cargo—     |        |
|-----------------|----------------------------------|-----------------|-----------------|------------|--------|
|                 |                                  |                 |                 | Discharged | Laded. |
|                 |                                  |                 |                 | Tons.      | Tons.  |
| Jamaica.....    | Pacific Steam Navigation Co..... | October 23..... | October 23..... |            | 26     |
| Manavi.....     | Pacific Steam Navigation Co..... | October 27..... | October 27..... | 6          |        |
| Ecuador.....    | Pacific Mail Steamship Co.....   | October 29..... | October 29..... | 2          | 6      |

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Volume XV. Balboa Heights, C. Z., November 9, 1921. No. 13.

## **New Dispatching Schedule for Ships Making the Transit of the Canal.**

Beginning August 15, 1921, a new system of dispatching vessels through the Panama Canal on a prearranged time schedule was tentatively introduced with the intention of making it permanent provided it were shown that adherence to the schedule did not result in unnecessary delays to shipping.

It was understood in some quarters that the new method of dispatching made a radical change, in that transit of the Canal was limited to the hours of daylight. This idea is erroneous. Vessels have never been sent through at night, and operations have never been conducted on a 24-hour schedule. It was never intended to attempt continuous operation until this change is made necessary by the increase of traffic.

Prior to August 15 of this year vessels were dispatched through the Canal southbound up to 1.30 p. m. each day, and northbound up to 3 p. m. Under the new schedule the time of dispatching southbound was not affected, but the time of dispatching from Balboa northbound was put back one hour and a quarter, that is, from 3 p. m. to 1.45 p. m. Any vessel arriving at Cristobal by 1.30 p. m. and any vessel arriving at Balboa by 1.45 p. m. will go through on the day of arrival.

Since the schedule has been in operation 3 vessels arrived during the month of September and could not go through which would have gone through the same day under the old system. This was only  $1\frac{1}{3}$  per cent of the vessels arriving during that month.

In practical operation there are slight delays of from 1 to 2 hours in time of transit; but it is difficult to determine whether these delays are greater than they would have been under the old system. In the one case ships are retarded to await a regular time for dispatching; in the other they were dispatched immediately but were frequently held up at the locks until traffic had passed moving in the opposite direction; so that it is believed that the new schedule does not increase the average delay in transit.

The new method of running ships through on time schedule is very much safer than the method formerly used, in that it insures the arrival of vessels at the locks at times when there are no adverse currents set up by the operation of the locks.

The present arrangement is very elastic as long as vessels arrive at the entrance of the Canal before the times mentioned. The hour set at Cristobal is the same under the new and old schedule; the only innovation being the difference of one hour and a quarter in the time of arrival at Balboa. The saving effected in operating expenses is considerable, and the effect on shipping appears to be so slight as to be practicably negligible. If, however, it should appear at any time in the future, that vessels using the Canal are subjected to expensive delays, the schedule will be modified.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, November 5, 1921.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.          | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line.                               | Length. | Beam. | Salt water draft. | From—        | For—          | Cargo.        |        | Panama Canal tonnage. |       |
|----------------|------------------|-------|----------------|-------|--------------------|-------|--------------|-------------------------------------|---------|-------|-------------------|--------------|---------------|---------------|--------|-----------------------|-------|
|                | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |                                     |         |       |                   |              |               | Nature.       | Tons.  | Gross.                | Net.  |
| Springfield    | 29               | 7 37  | 30             | 6 05  | 30                 | 13 58 | American     | N. Atl. & Western S. S. Co. (S. B.) | 411.0   | 54.0  | 15.6              | Portland     | Seattle       | General       | 2,515  | 6,576                 | 4,971 |
| Moorish Prince | 29               | 16 55 | 30             | 6 50  | 30                 | 15 07 | British      | Prince Steamship Line               | 425.0   | 56.0  | 27.0              | Savannah     | Yokohama      | General       | 7,300  | 7,629                 | 5,707 |
| Niagara        | 30               | 6 12  | 30             | 8 40  | 30                 | 15 07 | American     | United States Navy                  | 243.0   | 38.0  | 17.1              | Guantanamo   | Balboa        | Petroleum     | 10,800 | 10,084                | 7,426 |
| India Arrow    | 30               | 6 40  | 30             | 9 05  | 30                 | 16 54 | American     | Standard Transportation Co.         | 468.0   | 63.0  | 96.6              | New York     | San Francisco | Coal and coke | 3,074  | 6,050                 | 3,442 |
| Renalee        | 29               | 11 49 | 31             | 6 13  | 31                 | 14 04 | Chilean      | Comp. Sulp.-Amer. de Vapores        | 431.0   | 51.0  | 27.4              | Hamburg      | Valparaiso    | Coal and coke | 3,858  | 7,406                 | 5,311 |
| Oreus          | 30               | 14 28 | 31             | 6 50  | 31                 | 13 07 | American     | Wessel Duval & Co. (S. B.)          | 396.0   | 53.0  | 19.0              | New York     | Talcahuano    | Coal and coke | 9,500  | 7,406                 | 5,311 |
| Loupee         | 30               | 15 27 | 31             | 7 58  | 31                 | 16 34 | British      | C. T. Dowling & Co.                 | 432.0   | 50.0  | 26.0              | Cardiff      | Portland      | Ballast       | 6,500  | 7,108                 | 5,425 |
| Ohio Maru      | 30               | 19 40 | 31             | 8 45  | 31                 | 17 28 | Japanese     | Kawasaki Kabsushiki Kaisha          | 420.0   | 51.0  | 13.6              | Liverpool    | Auckland      | General       | 2,428  | 7,946                 | 5,739 |
| West Lewark    | 30               | 23 18 | 31             | 9 40  | 31                 | 17 28 | British      | New Zealand Shipping Co.            | 431.0   | 54.0  | 21.0              | Glasgow      | Tacoma        | General       | 34     | 1,357                 | 884   |
| Wheaton        | 31               | 4 41  | 31             | 10 26 | 31                 | 18 16 | American     | Williams, Dimond & Co.              | 415.0   | 54.0  | 21.0              | New York     | Balboa        | General       | 34     | 1,357                 | 884   |
| West Lewark    | 31               | 6 12  | 31             | 10 58 | 31                 | 19 25 | American     | Williams, Dimond & Co.              | 415.0   | 54.0  | 21.0              | New York     | Balboa        | General       | 34     | 1,357                 | 884   |
| Manavi         | 27               | 20 09 | 31             | 11 33 | 31                 | 20 10 | British      | Pacific Steam Navigation Co.        | 216.0   | 35.0  | 10.6              | Cristobal    | Guayaquil     | Ballast       | 3,600  | 3,141                 | 2,096 |
| Balboa         | 15               | 17 24 | 31             | 11 25 | 31                 | 20 15 | American     | Colombian Maritime Co.              | 190.0   | 29.0  | 11.0              | Cristobal    | Buenaventura  | Ballast       | 832    | 1,872                 | 1,227 |
| Kinderdijk     | 31               | 9 32  | 31             | 12 50 | 31                 | 22 45 | Dutch        | Holland-American Line               | 470.0   | 41.0  | 24.0              | Rotterdam    | Santa Rosalia | Crude oil     | 3,600  | 3,141                 | 2,096 |
| Argyll         | 27               | 11 58 | 31             | 12 50 | 31                 | 22 45 | French       | Compagnie de Boleo                  | 320.0   | 41.0  | 24.0              | Tampico      | Valparaiso    | Ballast       | 832    | 1,872                 | 1,227 |
| Antalusia      | 30               | 23 38 | 31             | 12 55 | 31                 | 22 15 | Swedish      | Swedish Lloyd's                     | 240.0   | 37.0  | 17.3              | New Orleans  | Valparaiso    | General       | 3,574  | 5,999                 | 4,101 |
| Atlantehavet   | 31               | 16 41 | 1              | 6 23  | 1                  | 14 01 | Danish       | Atlantehavet Steamship Co.          | 378.0   | 52.0  | 17.3              | Copenhagen   | Tocopilla     | General       | 5,962  | 5,919                 | 4,389 |
| Canada Maru    | 1                | 5 12  | 1              | 7 22  | 1                  | 15 05 | Japanese     | Osaka Shosen Kaisha                 | 400.0   | 51.0  | 25.0              | Buenos Aires | Yokohama      | General       | 3,048  | 8,514                 | 6,066 |
| Glasgow Maru   | 1                | 9 10  | 1              | 9 30  | 1                  | 17 20 | Japanese     | Kokusa Kaisha                       | 385.0   | 51.0  | 25.0              | Buenos Aires | Yokohama      | General       | 3,048  | 8,514                 | 6,066 |
| Tokutoku Maru  | 1                | 12 18 | 1              | 12 35 | 1                  | 19 36 | Japanese     | Kokusa Kaisha                       | 385.0   | 51.0  | 25.0              | Buenos Aires | Yokohama      | General       | 3,048  | 8,514                 | 6,066 |
| Emendijk       | 1                | 6 35  | 1              | 13 25 | 1                  | 20 15 | Dutch        | Holland-American Line               | 470.0   | 58.0  | 19.8              | London       | Vancouver     | Ballast       | 3,048  | 8,514                 | 6,066 |
| Santa Luisa    | 1                | 17 24 | 2              | 6 12  | 2                  | 13 52 | American     | W. R. Grace & Co.                   | 360.0   | 52.0  | 20.8              | London       | Los Angeles   | General       | 11,000 | 7,193                 | 4,903 |
| Los Angeles    | 2                | 11 20 | 2              | 11 37 | 2                  | 19 25 | American     | Union Oil Co.                       | 435.0   | 56.0  | 30.0              | Puerto Lobos | Talcahuano    | Crude oil     | 6,910  | 5,923                 | 5,062 |
| Yefuku Maru    | 2                | 21 58 | 3              | 7 05  | 3                  | 16 19 | Japanese     | Kokusa Kaisha                       | 385.0   | 51.0  | 27.0              | Port Arthur  | Hongkong      | Case oil      | 6,910  | 5,923                 | 5,062 |
| Yefuku Maru    | 2                | 22 58 | 3              | 8 05  | 3                  | 15 39 | Norwegian    | B. Stolt Nielsen                    | 411.0   | 54.0  | 22.0              | Cardiff      | San Francisco | Coal          | 6,910  | 5,923                 | 5,062 |
| Steel Ranger   | 3                | 8 35  | 3              | 9 00  | 3                  | 16 23 | American     | Iskman Steamship Line               | 424.0   | 56.0  | 26.2              | New York     | Honolulu      | General       | 6,910  | 5,923                 | 5,062 |
| Erio Maru      | 3                | 13 43 | 4              | 6 30  | 4                  | 14 00 | Japanese     | Kokusa Kaisha                       | 400.0   | 53.0  | 16.4              | Norfolk      | Portland      | Ballast       | 6,910  | 5,923                 | 5,062 |
| Sacramento     | 4                | 3 36  | 4              | 6 30  | 4                  | 14 54 | American     | United States Navy                  | 224.0   | 40.0  | 15.0              | Charleston   | Balboa        | General       | 371    | 3,296                 | 2,156 |
| Imperial       | 31               | 17 15 | 4              | 7 29  | 4                  | 15 45 | Chilean      | South American Steamship Line       | 336.8   | 41.0  | 19.6              | Cristobal    | Valparaiso    | General       | 371    | 3,296                 | 2,156 |
| Arduine        | 3                | 16 32 | 4              | 8 45  | 4                  | 16 31 | American     | Standard Oil Co.                    | 449.5   | 59.5  | 16.0              | Baltimore    | Talara        | Ballast       | 6,000  | 5,842                 | 4,092 |
| Canadian       | 3                | 15 54 | 4              | 9 12  | 4                  | 18 15 | Canadian     | Canadian Government                 | 400.3   | 52.0  | 23.8              | New York     | Guayaquil     | Oil, general  | 6,000  | 5,842                 | 4,092 |
| Panther        | 3                | 15 54 | 4              | 10 30 | 4                  | 19 25 | British      | Pacific Steam Navigation Co.        | 361.0   | 46.0  | 18.0              | New York     | Guayaquil     | General       | 219    |                       |       |
| Quilpie        | 31               | 18 20 | 4              | 10 30 | 4                  | 19 28 | American     | Pacific Mail Steamship Co.          | 283.0   | 37.0  | 17.4              | Cristobal    | San Francisco | General       | 1,665  | 2,379                 | 1,593 |
| San Juan       | 4                | 16 00 | 4              | 11 35 | 4                  | 20 40 | American     | American-Hawaiian Line              | 414.0   | 53.0  | 21.6              | New York     | Los Angeles   | General       | 2,200  | 7,049                 | 4,941 |
| Kentuckian     | 4                | 16 00 | 4              | 11 35 | 4                  | 20 40 | American     | American-Hawaiian Line              | 414.0   | 53.0  | 21.6              | New York     | Los Angeles   | General       | 2,200  | 7,049                 | 4,941 |
| West Kanan     | 4                | 11 35 | 4              | 12 15 | 4                  | 21 34 | American     | Williams, Dimond & Co. (S. B.)      | 410.0   | 54.0  | 21.0              | Hamburg      | Los Angeles   | General       | 2,418  | 6,573                 | 4,901 |

i Gumbat.

\* United States Army transport.

\* Patrol yacht.



|                                        |    |       |    |       |    |       |    |       |           |                                                    |                |              |              |                           |                             |                          |              |                 |                |
|----------------------------------------|----|-------|----|-------|----|-------|----|-------|-----------|----------------------------------------------------|----------------|--------------|--------------|---------------------------|-----------------------------|--------------------------|--------------|-----------------|----------------|
| rene S. Wilkin-<br>son                 | 4  | 9.18  | 5  | 6.40  | 5  | 14.33 | 5  | 18.02 | American  | Howard Lumber Co.<br>Atl. Gulf & Pacific S. S. Co. | 187.3<br>410.0 | 38.0<br>34.0 | 11.0<br>19.0 | Charleston.<br>Baltimore. | San Miguel.<br>Los Angeles. | Merchandise.<br>General. | 4<br>4,499   | 866<br>5,029    |                |
| Gen. H. F.<br>Hodges                   | 2  | 13.12 | 5  | 11.06 | 5  | 18.01 | 5  | 19.15 | American  | Panama Railroad Steamship Line<br>White Star Line. | 223.5<br>500.0 | 39.0<br>63.0 | 15.6<br>28.2 | New York<br>London.       | Guayaquil.<br>New Zealand.  | General.<br>General.     | 376<br>7,000 | 3,013<br>12,872 | 1,574<br>9,577 |
| THROUGH THE CANAL—PACIFIC TO ATLANTIC. |    |       |    |       |    |       |    |       |           |                                                    |                |              |              |                           |                             |                          |              |                 |                |
| Collegian                              | 29 | 18.20 | 30 | 6.39  | 30 | 14.24 | 31 | 15.12 | British   | T. & J. Harrison                                   | 455.4          | 56.3         | 25.0         | Vancouver                 | London                      | General.                 | 8,036        | 7,712           | 5,437          |
| Andrea F.                              | 29 | 23.10 | 30 | 7.51  | 30 | 15.32 | 30 | 15.32 | American  | Luckenbach Line.                                   | 496.0          | 68.2         | 25.0         | San Pedro                 | New York                    | General.                 | 10,500       | 11,487          | 8,732          |
| Lukenbach                              | 29 | 11.55 | 30 | 12.56 | 30 | 17.31 | 31 | 21.15 | American  | United States Navy                                 | 110.0          | 16.0         |              | Balboa                    | Cristobal                   | ( <sup>c</sup> )         | 5,384        | 9,045           | 6,815          |
| S. C. 284                              | 30 | 16.20 | 31 | 6.40  | 31 | 16.30 | 31 | 20.03 | British   | New Zealand Shipping Co.                           | 457.0          | 58.2         | 24.6         | Wellington.               | Liverpool                   | General                  | 5,416        | 6,440           | 4,890          |
| Ruapehu                                | 30 | 22.30 | 31 | 8.07  | 31 | 16.41 | 4  | 7.29  | British   | Pacific Steam Navigation Co.                       | 401.3          | 52.2         | 25.0         | Valparaiso                | Cristobal                   | General                  | 354          | 3,296           | 2,156          |
| Kentia                                 | 30 | 23.50 | 31 | 8.55  | 31 | 17.15 | 4  | 7.29  | Chilean   | Chilean Line.                                      | 336.8          | 41.2         | 21.0         | Talcahuano                | Cristobal                   | General                  | 689          | 2,379           | 1,593          |
| Imperial                               | 31 | 6.00  | 31 | 9.46  | 31 | 18.26 | 4  | 10.30 | American  | Pacific Mail Steamship Co.                         | 283.0          | 37.0         | 21.0         | San Francisco             | Cristobal                   | ( <sup>c</sup> )         | 3,450        | 3,795           | 2,659          |
| San Juan                               | 31 | 11.50 | 31 | 12.21 | 31 | 20.00 | 1  | 14.45 | American  | Delco Steamship Co.                                | 328.0          | 46.2         | 16.8         | Columbia Riv.             | New York                    | Lumber                   | 391          | 4,768           | 2,956          |
| Delco                                  | 31 | 8.50  | 31 | 11.25 | 31 | 18.17 | 1  | 14.45 | British   | Pacific Steam Navigation Co.                       | 361.4          | 46.2         | 16.8         | San Francisco             | New York                    | General                  | 591          | 4,768           | 2,956          |
| Quillota                               | 31 | 11.50 | 31 | 11.25 | 31 | 18.17 | 1  | 14.45 | British   | Pacific Steam Navigation Co.                       | 361.4          | 46.2         | 16.8         | San Francisco             | New York                    | General                  | 591          | 4,768           | 2,956          |
| Tampa                                  | 28 | 2.00  | 1  | 6.57  | 1  | 16.09 | 1  | 14.09 | American  | United States Government                           | 240.0          | 39.0         | 17.0         | Valparaiso                | Genoa                       | General                  | 1,615        | 5,331           | 3,773          |
| Bologna                                | 31 | 14.30 | 1  | 7.53  | 1  | 16.25 | 4  | 6.26  | Italian   | La Veloce Line.                                    | 384.9          | 46.7         | 19.6         | Champerico.               | Cristobal                   | Produce                  | 79           | 1,634           | 871            |
| Barina                                 | 1  | 8.55  | 1  | 10.07 | 1  | 17.05 | 6  | 6.06  | British   | Pacific Steam Navigation Co.                       | 220.5          | 37.1         | 10.6         | Champerico.               | Cristobal                   | Produce                  | 79           | 1,634           | 871            |
| Solana                                 | 1  | 9.40  | 1  | 11.18 | 1  | 18.20 | 2  | 12.10 | American  | Pacific Mail Steamship Co.                         | 419.5          | 56.5         | 18.0         | Valparaiso                | Tampico                     | Ballast                  | 3,490        | 4,243           | 3,123          |
| Ceres                                  | 1  | 1.00  | 2  | 6.49  | 2  | 15.30 | 3  | 16.04 | Dutch     | Royal Netherlands W. I. Mail                       | 348.0          | 48.2         | 20.0         | Valparaiso                | Amsterdam                   | ( <sup>c</sup> )         | 4,950        | 5,905           | 4,391          |
| Huachuco                               | 1  | 21.50 | 2  | 7.38  | 2  | 15.22 | 2  | 18.34 | British   | Pacific Steam Navigation Co.                       | 390.6          | 50.2         | 24.6         | Port Stanley              | London                      | General                  | 4,950        | 5,905           | 4,391          |
| Gen. O. H.<br>Ernst                    | 2  | 11.00 | 2  | 11.57 | 2  | 18.25 | 4  | 17.10 | American  | Panama Railroad Steamship Line                     | 356.4          | 45.3         | 17.2         | Guayaquil                 | New York                    | General                  | 1,755        | 4,503           | 2,764          |
| La Habra                               | 2  | 13.15 | 2  | 13.52 | 2  | 20.30 | 2  | 22.59 | Norwegian | Wilhelm Wilhelmsen                                 | 424.8          | 57.0         | 19.0         | Valparaiso                | Tampico                     | Ballast                  | 7,053        | 5,051           | 6,179          |
| Janatara                               | 2  | 15.30 | 3  | 6.48  | 3  | 14.26 | 3  | 16.13 | British   | Pacific Steam Navigation Co.                       | 220.0          | 34.0         | 10.3         | Tunaco                    | Cristobal                   | General                  | 93           | 1,187           | 622            |
| Willolo                                | 2  | 13.35 | 3  | 7.42  | 3  | 15.13 | 3  | 16.10 | American  | Williams Steamship Co.                             | 386.8          | 52.2         | 24.0         | Portland                  | Norfolk                     | General                  | 5,923        | 5,680           | 4,112          |
| Dorset                                 | 3  | 9.41  | 3  | 10.48 | 3  | 19.00 | 4  | 12.23 | British   | Federal Steam Navigation Co.                       | 460.0          | 58.2         | 23.6         | Lytleton                  | London                      | ( <sup>c</sup> )         | 5,775        | 9,188           | 6,581          |
| Washington<br>Maru.                    | 3  | 14.05 | 4  | 6.28  | 4  | 15.05 | 4  | 16.19 | Japanese  | Kokusa Kisen Kaisha                                | 385.0          | 51.0         | 26.0         | Portland                  | Europe                      | Wheat.                   | 7,410        | 5,919           | 4,400          |
| F. J. Lucken-<br>bach                  | 4  | 3.30  | 4  | 7.52  | 4  | 15.50 | 4  | 21.45 | American  | Luckenbach Line                                    | 446.0          | 56.1         | 24.0         | Astoria                   | New York                    | General                  | 5,000        | 8,508           | 6,179          |
| Terrier                                | 4  | 3.00  | 4  | 8.28  | 4  | 16.13 | 4  | 16.53 | Norwegian | Wilhelm Wilhelmsen                                 | 400.0          | 52.0         | 23.0         | Portland                  | Europe                      | Wheat in bags.           | 7,085        | 5,631           | 4,121          |
| Manaro                                 | 4  | 13.40 | 4  | 14.51 | 4  | 22.36 | 4  | 23.23 | Peruvian  | Peruvian Line                                      | 367.3          | 46.0         | 18.6         | Portland                  | Cristobal                   | General                  | 1,962        | 4,838           | 2,959          |
| Alaskan                                | 4  | 13.45 | 4  | 15.00 | 4  | 23.23 | 4  | 23.23 | American  | American-Hawaiian Line                             | 470.1          | 57.2         | 24.0         | Vancouver.                | Boston                      | General                  | 4,600        | 9,250           | 6,816          |
| Benjamin                               | 4  | 18.00 | 5  | 6.39  | 5  | 14.36 | 5  | 16.22 | American  | Standard Oil Co.                                   | 411.6          | 53.2         | 26.6         | Talara.                   | New York                    | Crude oil.               | 5,759        | 6,344           | 4,411          |
| Brewster                               | 4  | 18.35 | 5  | 7.59  | 5  | 15.22 | 5  | 15.55 | American  | United States Steel Products Co.                   | 424.0          | 56.0         | 27.0         | Seattle                   | Baltimore                   | Lumber.                  | 8,500        | 7,539           | 5,448          |
| Atlanta City                           | 5  | 1.30  | 5  | 8.15  | 5  | 16.05 | 5  | 19.50 | American  | Dollar Line.                                       | 288.8          | 44.6         | 18.6         | San Francisco             | New York                    | General                  | 2,400        | 3,460           | 2,401          |
| Stanley Dollar                         | 5  | 2.00  | 5  | 9.30  | 5  | 16.37 | 5  | 19.00 | American  | Wilhelm Wilhelmsen.                                | 425.4          | 57.1         | 17.3         | Antofagasta.              | Tampico                     | Ballast.                 | 7,059        | 5,043           |                |
| San Joaquin                            | 5  | 2.00  | 5  | 9.30  | 5  | 16.37 | 5  | 19.00 | Norwegian | Wilhelm Wilhelmsen.                                | 425.4          | 57.1         | 17.3         | Antofagasta.              | Tampico                     | Ballast.                 | 7,059        | 5,043           |                |
| Ansalsu San                            | 2  | 9.15  | 5  | 12.58 | 5  | 20.45 | 5  | 20.45 | Italian   | Societa Nazionale                                  | 392.6          | 51.6         | 24.0         | Valparaiso.               | Genoa.                      | Nitrate, etc.            | 7,000        | 5,907           | 4,310          |
| Giorgio III.                           | 2  | 9.15  | 5  | 12.58 | 5  | 20.45 | 5  | 20.45 | Italian   | Societa Nazionale                                  | 392.6          | 51.6         | 24.0         | Valparaiso.               | Genoa.                      | Nitrate, etc.            | 7,000        | 5,907           | 4,310          |

\* Nitrate, coffee, cocoa, hides, and cotton seed.

\* Coffee, dyewood, and general.

\* Cold storage and general.

\* Coast Guard cutter.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 198, column 2.)

# Commercial Traffic Through the Panama Canal in October, 1921, by Trade Routes.

## ATLANTIC TO PACIFIC.

| Route and registry.                                                     | No. of vessels. | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. | Tolls.      | Cargo.<br><i>Long tons.</i> |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-----------------------------|
| <i>From Europe to west coast of United States:</i>                      |                 |                           |                   |                   |                 |             |                             |
| British.....                                                            | 8               | 35,261                    | 44,173            | 54,534            | 35,441          | \$34,123.21 |                             |
| Japanese.....                                                           | 6               | 23,817                    | 26,090            | 34,249            | 23,224          | 27,196.30   |                             |
| United States.....                                                      | 3               | 13,272                    | 17,093            | 21,511            | 14,111          | 14,897.09   | 5,840                       |
| Norwegian.....                                                          | 2               | 8,631                     | 10,758            | 13,645            | 8,601           | 9,348.07    | 3,800                       |
| Swedish.....                                                            | 2               | 7,742                     | 11,117            | 11,200            | 8,566           | 8,308.42    | 1,006                       |
| Greek.....                                                              | 2               | 7,553                     | 7,807             | 9,253             | 5,714           | 7,563.60    |                             |
| Dutch.....                                                              | 2               | 7,081                     | 9,548             | 11,371            | 7,050           | 6,874.56    |                             |
| French.....                                                             | 1               | 4,326                     | 4,363             | 5,923             | 3,763           | 5,235.60    | 245                         |
| Spanish.....                                                            | 1               | 3,674                     | 4,235             | 5,754             | 3,452           | 3,049.20    |                             |
| Totals.....                                                             | 27              | 111,357                   | 135,184           | 167,440           | 109,922         | 116,596.05  | 10,891                      |
| <i>United States coastwise:</i>                                         |                 |                           |                   |                   |                 |             |                             |
| United States.....                                                      | 22              | 93,450                    | 113,712           | 142,278           | 92,586          | 116,752.05  | 86,442                      |
| <i>From United States to Far East:</i>                                  |                 |                           |                   |                   |                 |             |                             |
| Japanese.....                                                           | 10              | 40,230                    | 45,995            | 59,681            | 39,669          | 47,718.90   | 56,118                      |
| United States.....                                                      | 5               | 19,373                    | 28,528            | 31,489            | 19,288          | 24,216.25   | 40,125                      |
| British.....                                                            | 4               | 14,584                    | 19,424            | 23,206            | 14,674          | 18,230.00   | 27,446                      |
| Totals.....                                                             | 19              | 74,187                    | 93,947            | 114,376           | 73,631          | 90,165.15   | 123,689                     |
| <i>From Cristobal to west coast of South America:</i>                   |                 |                           |                   |                   |                 |             |                             |
| British.....                                                            | 4               | 1,811                     | 2,532             | 3,321             | 1,980           | 2,263.75    | 399                         |
| Peruvian.....                                                           | 3               | 3,699                     | 7,742             | 12,452            | 6,277           | 4,623.75    | 931                         |
| Chilean.....                                                            | 2               | 3,274                     | 5,759             | 6,351             | 3,872           | 4,092.50    | 979                         |
| United States.....                                                      | 2               | 672                       | 700               | 1,230             | 744             | 504.00      |                             |
| Totals.....                                                             | 11              | 9,456                     | 16,733            | 23,354            | 12,873          | 11,484.00   | 2,309                       |
| <i>From east coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |             |                             |
| United States.....                                                      | 5               | 10,623                    | 13,700            | 16,583            | 10,382          | 12,994.25   | 7,803                       |
| British.....                                                            | 2               | 6,649                     | 9,171             | 12,172            | 7,139           | 8,311.25    | 1,691                       |
| Norwegian.....                                                          | 2               | 1,760                     | 2,936             | 2,955             | 1,763           | 2,200.00    | 72                          |
| Swedish.....                                                            | 1               | 1,091                     | 1,227             | 1,825             | 1,282           | 1,363.75    | 832                         |
| Totals.....                                                             | 10              | 20,123                    | 27,034            | 33,535            | 20,566          | 24,869.25   | 10,395                      |
| <i>From Europe to Australasia:</i>                                      |                 |                           |                   |                   |                 |             |                             |
| British.....                                                            | 7               | 33,731                    | 46,258            | 51,856            | 33,882          | 42,031.25   | 35,126                      |
| French.....                                                             | 1               | 164                       | 163               | 198               | 170             | 195.60      | 300                         |
| Totals.....                                                             | 8               | 33,895                    | 46,421            | 52,054            | 34,052          | 42,226.85   | 35,426                      |
| <i>From Europe to west coast of South America:</i>                      |                 |                           |                   |                   |                 |             |                             |
| British.....                                                            | 4               | 9,566                     | 13,311            | 14,518            | 9,001           | 11,781.52   | 5,737                       |
| French.....                                                             | 1               | 4,219                     | 4,932             | 6,669             | 4,224           | 5,273.75    | 164                         |
| Danish.....                                                             | 1               | 3,127                     | 4,090             | 4,950             | 3,163           | 3,908.75    | 3,003                       |
| Chilean.....                                                            | 1               | 2,754                     | 3,442             | 5,961             | 2,981           | 3,442.50    | 3,074                       |
| Dutch.....                                                              | 1               | 1,603                     | 3,057             | 2,655             | 1,625           | 2,033.75    | 1,354                       |
| Totals.....                                                             | 8               | 21,269                    | 28,832            | 34,753            | 21,084          | 26,410.27   | 13,332                      |
| <i>Foreign ships in ballast between United States coastwise ports:</i>  |                 |                           |                   |                   |                 |             |                             |
| Japanese.....                                                           | 2               | 8,742                     | 9,135             | 11,733            | 8,514           | 8,688.72    |                             |
| Norwegian.....                                                          | 1               | 4,599                     | 4,990             | 4,811             | 2,859           | 5,748.75    |                             |
| British.....                                                            | 1               | 3,007                     | 4,872             | 4,834             | 2,996           | 3,537.84    |                             |
| Totals.....                                                             | 4               | 16,348                    | 18,997            | 21,378            | 14,369          | 17,945.31   |                             |
| <i>From east coast of United States to Australasia:</i>                 |                 |                           |                   |                   |                 |             |                             |
| British.....                                                            | 4               | 15,206                    | 17,558            | 22,823            | 15,303          | 18,830.25   | 16,432                      |
| <i>From Europe to west coast of Canada:</i>                             |                 |                           |                   |                   |                 |             |                             |
| United States.....                                                      | 1               | 4,820                     | 6,026             | 7,583             | 4,819           | 6,025.00    | 2,000                       |
| Danish.....                                                             | 1               | 5,191                     | 5,663             | 6,913             | 5,218           | 6,488.75    | 6,950                       |
| British.....                                                            | 1               | 3,443                     | 4,305             | 5,421             | 3,411           | 4,303.75    | 2,164                       |
| Totals.....                                                             | 3               | 13,454                    | 15,994            | 19,917            | 13,448          | 16,817.50   | 11,114                      |
| <i>From east coast of United States to west coast of Canada:</i>        |                 |                           |                   |                   |                 |             |                             |
| United States.....                                                      | 1               | 5,203                     | 5,624             | 6,939             | 5,203           | 6,503.75    | 8,268                       |
| British.....                                                            | 1               | 3,572                     | 4,565             | 5,604             | 3,582           | 3,286.80    |                             |
| Totals.....                                                             | 2               | 8,775                     | 10,189            | 12,543            | 8,785           | 9,790.55    | 8,278                       |
| <i>From east coast of South America to west coast of United States:</i> |                 |                           |                   |                   |                 |             |                             |
| United States.....                                                      | 2               | 8,170                     | 9,263             | 11,897            | 7,305           | 8,466.58    | 4,997                       |

## ATLANTIC TO PACIFIC—Continued.

| Route and registry.                                                | No. of<br>vessels. | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered<br>gross. | Registered<br>net. | Tolls.     | Cargo.<br><br><i>Long tons.</i> |
|--------------------------------------------------------------------|--------------------|---------------------------------|-------------------------|----------------------|--------------------|------------|---------------------------------|
| <i>From east coast of Mexico to west coast of Central America:</i> |                    |                                 |                         |                      |                    |            |                                 |
| United States.....                                                 | 1                  | 4,203                           | 5,041                   | 6,703                | 4,203              | \$5,253.75 | 9,000                           |
| French.....                                                        | 1                  | 2,155                           | 2,096                   | 2,953                | 1,880              | 2,515.20   | 360                             |
| Totals.....                                                        | 2                  | 6,358                           | 7,137                   | 9,656                | 6,083              | 7,768.95   | 9,360                           |
| <i>From Cristobal to west coast of Central America:</i>            |                    |                                 |                         |                      |                    |            |                                 |
| British.....                                                       | 1                  | 1,401                           | 1,577                   | 2,731                | 1,463              | 1,751.25   | 1,569                           |
| <i>From Mexico to west coast of Canada:</i>                        |                    |                                 |                         |                      |                    |            |                                 |
| British.....                                                       | 1                  | 7,774                           | 7,874                   | 10,397               | 7,725              | 9,448.80   | 15,000                          |
| <i>From Mexico to Far East:</i>                                    |                    |                                 |                         |                      |                    |            |                                 |
| Japanese.....                                                      | 1                  | 5,513                           | 6,385                   | 9,049                | 6,502              | 6,891.25   | 8,949                           |
| <i>From Canada to Australasia:</i>                                 |                    |                                 |                         |                      |                    |            |                                 |
| British.....                                                       | 1                  | 5,024                           | 5,078                   | 6,957                | 5,104              | 6,093.60   | 4,769                           |
| <i>From Mexico to west coast of South America:</i>                 |                    |                                 |                         |                      |                    |            |                                 |
| British.....                                                       | 1                  | 4,645                           | 5,311                   | 7,270                | 4,513              | 5,806.25   | 9,500                           |
| <i>From Cristobal to west coast of United States:</i>              |                    |                                 |                         |                      |                    |            |                                 |
| United States.....                                                 | 1                  | 1,862                           | 2,206                   | 3,169                | 1,862              | 2,327.50   | 1,467                           |
| <i>From Mexico to west coast of United States:</i>                 |                    |                                 |                         |                      |                    |            |                                 |
| Norwegian.....                                                     | 1                  | 832                             | 1,121                   | 1,648                | 811                | 807.12     | .....                           |
| <i>Colombian coastwise:</i>                                        |                    |                                 |                         |                      |                    |            |                                 |
| British.....                                                       | 1                  | 614                             | 622                     | 1,138                | 602                | 746.40     | 525                             |
| Totals, October, 1921...                                           | 131                | 459,713                         | 574,175                 | 708,363              | 458,539            | 541,994.93 | 374,437                         |
| Totals, September, 1921.                                           | 128                | 434,250                         | 530,634                 | 669,087              | 427,395            | 513,793.61 | 300,720                         |
| Totals, October, 1920...                                           | 119                | 381,447                         | 470,536                 | 599,920              | 381,626            | 463,916.53 | 488,713                         |

## PACIFIC TO ATLANTIC.

|                                                                         |    |         |         |         |         |             |                   |
|-------------------------------------------------------------------------|----|---------|---------|---------|---------|-------------|-------------------|
| <i>From west coast of United States to Europe:</i>                      |    |         |         |         |         |             | <i>Long tons.</i> |
| British.....                                                            | 14 | 46,001  | 56,480  | 70,797  | 45,099  | \$57,311.05 | 97,731            |
| Japanese.....                                                           | 5  | 22,294  | 22,499  | 29,802  | 21,077  | 26,998.80   | 38,835            |
| United States.....                                                      | 5  | 21,727  | 26,005  | 32,943  | 21,678  | 27,158.75   | 39,341            |
| Danish.....                                                             | 3  | 11,455  | 13,224  | 15,284  | 12,978  | 14,151.60   | 22,081            |
| Spanish.....                                                            | 1  | 3,031   | 3,437   | 4,648   | 2,877   | 3,788.75    | 6,100             |
| Dutch.....                                                              | 1  | 2,196   | 3,468   | 3,684   | 2,207   | 2,745.00    | 5,700             |
| Totals.....                                                             | 29 | 106,704 | 125,113 | 157,158 | 105,916 | 132,153.95  | 209,788           |
| <i>United States coastwise:</i>                                         |    |         |         |         |         |             |                   |
| United States.....                                                      | 19 | 81,368  | 96,731  | 121,827 | 81,338  | 101,710.00  | 105,951           |
| <i>From west coast of South America to Europe:</i>                      |    |         |         |         |         |             |                   |
| British.....                                                            | 8  | 28,544  | 37,363  | 46,953  | 28,721  | 35,680.00   | 46,571            |
| Danish.....                                                             | 1  | 4,257   | 5,317   | 6,645   | 4,244   | 5,321.25    | 6,193             |
| French.....                                                             | 1  | 3,600   | 4,146   | 5,765   | 3,681   | 4,500.00    | 4,250             |
| Norwegian.....                                                          | 1  | 3,053   | 3,071   | 4,101   | 3,061   | 3,685.20    | 5,450             |
| Dutch.....                                                              | 1  | 2,224   | 3,807   | 3,623   | 2,229   | 2,780.00    | 5,344             |
| Totals.....                                                             | 12 | 41,678  | 53,704  | 67,087  | 41,936  | 51,966.45   | 67,808            |
| <i>From west coast of South America to east coast of United States:</i> |    |         |         |         |         |             |                   |
| United States.....                                                      | 7  | 16,698  | 21,042  | 27,538  | 17,226  | 20,872.50   | 23,672            |
| British.....                                                            | 4  | 9,626   | 13,661  | 18,185  | 10,357  | 12,032.50   | 7,087             |
| Norwegian.....                                                          | 1  | 881     | 1,479   | 1,493   | 873     | 1,101.25    | 905               |
| Totals.....                                                             | 12 | 27,205  | 36,182  | 47,216  | 28,456  | 34,006.25   | 31,664            |
| <i>From west coast of South America to Cristobal:</i>                   |    |         |         |         |         |             |                   |
| British.....                                                            | 4  | 1,325   | 1,720   | 2,391   | 1,465   | 1,656.25    | 1,424             |
| Chilean.....                                                            | 3  | 4,549   | 7,915   | 9,080   | 5,505   | 5,686.25    | 2,262             |
| Peruvian.....                                                           | 3  | 3,699   | 7,742   | 12,452  | 6,277   | 4,623.75    | 6,368             |
| United States.....                                                      | 2  | 672     | 700     | 1,230   | 744     | 840.00      | 1,051             |
| Totals.....                                                             | 12 | 10,245  | 18,077  | 25,153  | 13,991  | 12,806.25   | 11,107            |
| <i>From Australasia to Europe:</i>                                      |    |         |         |         |         |             |                   |
| British.....                                                            | 6  | 30,739  | 36,498  | 47,070  | 30,564  | 38,282.70   | 33,305            |
| <i>From west coast of Canada to Europe:</i>                             |    |         |         |         |         |             |                   |
| British.....                                                            | 3  | 12,667  | 16,506  | 20,185  | 12,744  | 15,833.75   | 26,281            |
| United States.....                                                      | 1  | 3,450   | 5,448   | 5,687   | 3,450   | 4,312.50    | 8,100             |
| Sweden.....                                                             | 1  | 2,248   | 4,089   | 3,767   | 2,865   | 2,810.00    | 5,604             |
| Totals.....                                                             | 5  | 18,365  | 26,043  | 29,639  | 19,059  | 22,956.25   | 39,985            |
| <i>From Far East to Europe:</i>                                         |    |         |         |         |         |             |                   |
| British.....                                                            | 1  | 5,523   | 5,852   | 5,713   | 3,643   | 6,903.75    | 4,438             |
| Danish.....                                                             | 1  | 5,452   | 6,874   | 8,597   | 5,469   | 6,815.00    | 12,500            |
| Japanese.....                                                           | 1  | 4,470   | 5,529   | 7,031   | 4,343   | 5,587.50    | 10,806            |
| Totals.....                                                             | 3  | 15,445  | 18,255  | 21,341  | 13,455  | 19,306.25   | 27,794            |

## PACIFIC TO ATLANTIC—Continued.

| Route and registry.                                                     | No. of vessels. | United States equivalent. | Panama Canal net. | Registered gross. | Registered net.  | Tolls.      | Cargo.            |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|------------------|-------------|-------------------|
| <i>From west coast of Canada to east coast of United States:</i>        |                 |                           |                   |                   |                  |             | <i>Long tons.</i> |
| United States                                                           | 3               | 11,112                    | 12,873            | 15,712            | 9,954            | \$13,890.00 | 17,768            |
| <i>From west coast of United States to Cristobal:</i>                   |                 |                           |                   |                   |                  |             |                   |
| United States                                                           | 3               | 11,349                    | 12,172            | 16,493            | 11,326           | 10,108.75   | 1,467             |
| <i>From Far East to east coast of United States:</i>                    |                 |                           |                   |                   |                  |             |                   |
| Japanese                                                                | 2               | 8,081                     | 9,993             | 12,838            | 7,928            | 10,101.25   | 14,662            |
| United States                                                           | 2               | 7,448                     | 9,472             | 11,578            | 7,127            | 9,310.00    | 13,256            |
| Totals                                                                  | 4               | 15,529                    | 19,465            | 24,416            | 15,055           | 19,411.25   | 27,918            |
| <i>From west coast of United States to east coast of United States:</i> |                 |                           |                   |                   |                  |             |                   |
| British                                                                 | 3               | 8,991                     | 12,222            | 14,174            | 8,878            | 11,238.75   | 20,145            |
| <i>From west coast of South America to east coast of Mexico:</i>        |                 |                           |                   |                   |                  |             |                   |
| British                                                                 | 2               | 8,684                     | 9,719             | 13,700            | 8,565            | 6,997.68    | .....             |
| <i>From west coast of United States to east coast of Mexico:</i>        |                 |                           |                   |                   |                  |             |                   |
| United States                                                           | 2               | 5,606                     | 6,407             | 8,746             | 5,605            | 5,280.16    | 3,233             |
| <i>From west coast of South America to Africa:</i>                      |                 |                           |                   |                   |                  |             |                   |
| British                                                                 | 1               | 6,232                     | 6,256             | 6,232             | 4,006            | 7,507.20    | 9,580             |
| <i>From Australasia to east coast of United States:</i>                 |                 |                           |                   |                   |                  |             |                   |
| United States                                                           | 1               | 3,493                     | 4,938             | 5,708             | 3,498            | 4,366.25    | 3,300             |
| <i>Mexican coastwise:</i>                                               |                 |                           |                   |                   |                  |             |                   |
| French                                                                  | 1               | 2,155                     | 2,096             | 2,953             | 1,880            | 1,616.25    | .....             |
| <i>From west coast of Central America to Cristobal:</i>                 |                 |                           |                   |                   |                  |             |                   |
| British                                                                 | 1               | 638                       | 706               | 1,170             | 654              | 797.50      | 92                |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                  |             |                   |
| British                                                                 | 1               | 614                       | 622               | 1,138             | 602              | 746.40      | 513               |
| <i>Miscellaneous routings:</i>                                          |                 |                           |                   |                   |                  |             |                   |
| Panamanian                                                              | 1               | 104                       | 120               | 193               | 103              | 86.40       | .....             |
| United States                                                           | 1               | 177                       | 180               | 323               | 246              | 216.00      | .....             |
| Japanese                                                                | 2               | ( <sup>a</sup> )          | ( <sup>a</sup> )  | ( <sup>a</sup> )  | ( <sup>a</sup> ) | 10,490.00   | .....             |
| Totals                                                                  | 4               | 281                       | 300               | 516               | 349              | 10,792.40   | .....             |
| Totals, October, 1921                                                   | 124             | 406,483                   | 498,379           | 627,449           | 405,087          | 505,940.69  | 611,338           |
| Totals, September, 1921                                                 | 93              | 314,494                   | 394,503           | 498,133           | 316,179          | 378,207.93  | 454,174           |
| Totals, October, 1920...                                                | 119             | 380,566                   | 465,043           | 591,016           | 372,914          | 447,909.05  | 502,353           |

<sup>a</sup> For orders.<sup>a</sup> Two Japanese cruisers with displacement tonnage of 20,980.**Canal Traffic in October.**

Commercial traffic through the Panama Canal during the month of October was not only greater than that of the preceding month, and that of the corresponding month of last year, but in point of tonnage and tolls collected has been exceeded but twice since the opening of the Canal, viz., in the months of January and March of the present year.

The following shows a summary of the commercial traffic through the Canal during the calendar year:

| 1921.     | No. of ships. | Tonnage.          |                   | Tolls.         | Tons of cargo. |
|-----------|---------------|-------------------|-------------------|----------------|----------------|
|           |               | Panama Canal net. | Registered gross. |                |                |
| January   | 279           | 1,094,323         | 1,383,778         | \$1,095,857.46 | 1,177,053      |
| February  | 241           | 916,838           | 1,179,979         | 917,412.79     | 952,904        |
| March     | 255           | 1,112,818         | 1,417,220         | 1,105,536.55   | 1,084,563      |
| April     | 227           | 955,503           | 1,203,087         | 927,977.09     | 907,613        |
| May       | 210           | 864,617           | 1,092,602         | 835,882.77     | 792,735        |
| June      | 192           | 761,477           | 960,857           | 751,964.12     | 694,720        |
| July      | 206           | 810,613           | 1,022,802         | 804,503.11     | 708,982        |
| August    | 236           | 965,276           | 1,219,817         | 955,380.78     | 839,273        |
| September | 221           | 925,137           | 1,167,220         | 892,001.54     | 754,894        |
| October   | 255           | 1,069,554         | 1,335,812         | 1,047,935.62   | 985,775        |
| Totals    | 2,322         | 9,476,156         | 11,983,174        | 9,334,451.83   | 8,898,512      |



The October traffic was made up as follows:

| Direction.               | No. of ships. | Panama Canal net tonnage. | Registered gross tonnage. | Tolls.       | Tons of cargo. |
|--------------------------|---------------|---------------------------|---------------------------|--------------|----------------|
| Atlantic to Pacific..... | 131           | 571,175                   | 708,363                   | \$541,994.93 | 374,437        |
| Pacific to Atlantic..... | 124           | 498,379                   | 627,449                   | 505,940.69   | 611,338        |

During October 55 per cent of the total tonnage from the Atlantic to the Pacific was routed to the west coast of the United States and Canada, as compared with an average of approximately 26 per cent of the total tonnage during the past fiscal year. Vessels from the west coast of the United States and Canada made up 58 per cent of the total tonnage from the Pacific to Atlantic as compared with an average of 32 per cent during the past fiscal year. This excess above normal traffic is due in part to the heavy grain shipments; 22 full cargoes of wheat and barley passed from the Pacific to the Atlantic during October, aggregating 152,279 tons, while in addition these two grains formed a large part of many mixed cargoes.

The percentage of tonnage routed to the west coast of South America represented but approximately 14 per cent of the Atlantic-to-Pacific traffic and was under that of last month and less than half the average for the past fiscal year. The percentage of tonnage from the west coast of South America increased slightly over that for last month but was only five-eighths of the average tonnage during the past fiscal year. Nitrate shipments were heavier than for the past few months but totaled only about a third of the heavy shipments of a year ago.

Traffic from Australasia to the east coast of the United States and Europe represented 8 per cent of the Pacific-to-Atlantic traffic, as compared with 10 per cent for last month, and an average of 17 per cent during the past fiscal year. Traffic to Australasia made up 12 per cent of the Atlantic-to-Pacific tonnage, which is a slight increase over last month but only about two-thirds of the normal traffic for the last fiscal year.

Tonnage routed to the Far East made up 18 per cent of the total Atlantic-to-Pacific traffic, and returning tonnage on this route represented approximately 7 per cent; these are approximately the normal percentages. An unusual feature of this traffic was 3 ships routed from the Far East to Europe, 1 of which was from the Kamchatka Peninsula, laden with 240,573 cases (10,806 tons) of salmon.

Traffic to and from the east coast of Mexico represented about 5 per cent of the total traffic each way, which was about half of the proportion during the past fiscal year. A number of miscellaneous oil shipments were made during the past month, but the heavy shipments to the west coast of South America and the west coast of the United States, which were interrupted some months ago, have not yet been resumed.

#### **Notice to Mariners.—Change of Light at Lamentin Point, Port-au-Prince Harbor, Haiti.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., November 4, 1921.

CIRCULAR NO. 643-95.

This office is informed through the Surveyor of Customs, Port-au-Prince, Haiti, as follows:

"I wish to inform you that the flashing red light on Lamentin Point, Port-au-Prince harbor, has been changed to a flashing white light, with no other changes."

JAY J. MORROW, Governor.

### Messages Sent Through Colon Radio Station.

OFFICE OF THE DISTRICT COMMUNICATION SUPER-INTENDENT—FIFTEENTH NAVAL DISTRICT,  
BALBOA, C. Z., November 4, 1921.

#### CIRCULAR NO. 5:

In view of the confusion which exists in the minds of some of the steamship agencies regarding the filing and delivering of messages at the Colon radio station, at present, the following is submitted for their information:

Between the hours of 8 a. m. and 8 p. m. messages may be filed at the Panama National Telegraph Company's telegraph office, and when the Panama Railroad Company's telegraph office is open, at that office. After 8 p. m. these telegraph offices are closed and persons having charge accounts can then telephone messages to the radio station or file them at the station itself. All telephoned messages must be confirmed later by messenger, telegraph, or by mail.

No messages received between the hours of 8 a. m. and 8 p. m. will be telephoned out unless carrying the word "Rush" in the prefix. After 8 p. m. all messages will be telephoned out. All telephoned messages will be confirmed later by telegraph.

If the steamship captains are advised that the word "Rush" must be in the prefix of the message, in order to carry telephone delivery, there should be no delay in the reception of urgent messages.

Due to the fact that it will probably take a month to advise the captains of the various vessels, all messages received from ships about their date of arrival, will, until December 1, 1921, be handled as if carrying the word "Rush" in the prefix of the message.

D. F. PATTERSON,

Lieut.-Commander, U. S. N.,  
District Communication Superintendent,  
15th Naval District.

### Price of Commissary Supplies.

|                                                    |               |
|----------------------------------------------------|---------------|
| Coffee, Commissary Special, lb.....                | \$0.23        |
| Sugar, finest, highly refined, States' granulated: |               |
| 25-lb. sack.....                                   | 1.75          |
| 5-lb. sack.....                                    | .37           |
| Lima beans, lb.....                                | .08           |
| Spinach, 10-lb. tin.....                           | .71           |
| Apples, 10-lb. tin.....                            | .69           |
| Sweet potatoes, 10-lb. tin.....                    | .78           |
| Navy beans, lb.....                                | .06           |
| Roast beef, 6-lb. tin.....                         | 1.90          |
| Boiled beef, 6-lb. tin.....                        | 1.50          |
| Salad oil, 24-oz. bot.....                         | .33           |
| Beef, hind quarters, lb.....                       | .21           |
| Beef, fore quarters, lb.....                       | .13½          |
| Square chuck with prime ribs, lb.....              | .16           |
| Ribs, lb.....                                      | .17           |
| Short loins, lb.....                               | .30           |
| Pork carcasses, lb.....                            | .24           |
| Lamb carcasses, lb.....                            | .34           |
| Mutton carcasses, lb.....                          | .25           |
| Veal carcasses, lb.....                            | .34           |
| Bananas, doz.....                                  | .06           |
| Bananas, hand.....                                 | .07           |
| Coconuts, ea.....                                  | .06           |
| Grapefruit, graded.....                            | .03, .05, .07 |
| Oranges, select Costa Rican.....                   | .03, .04      |
| Carrots, lb.....                                   | .05           |
| Turnips, lb.....                                   | .06           |
| Pickles, bulk, gal.....                            | 1.40          |
| Soap, brown laundry, cake.....                     | .06           |
| Tea, English Breakfast, lb.....                    | .39           |
| Soup, Campbell's, assorted, tin.....               | .13           |
| Rice, lb.....                                      | .05           |
| Jams, all flavors, 1-lb. tin.....                  | .29           |
| Peaches, 10-lb. tin.....                           | 1.40          |
| Condensed milk, case ( 8 ).....                    | 7.20          |
| Evaporated milk, case (48).....                    | 5.76          |
| Ketchup, pint bottle.....                          | .30           |
| Vinegar, cider, large bottle.....                  | .25           |

### MOVEMENTS OF OCEAN VESSELS.—Continued from page 193.

PORT OF CRISTOBAL.

| *ARRIVALS.   |                      |                                  | *DEPARTURES. |                      |                                  |
|--------------|----------------------|----------------------------------|--------------|----------------------|----------------------------------|
| Date.        | Vessel.              | Line.                            | Date.        | Vessel.              | Line.                            |
| Oct. 29..... | Gen. G. W. Goethals. | Panama Railroad Steamship Line.  | Oct. 30..... | Grelbosa.....        | Gould Steamship & Industrial Co. |
| Oct. 30..... | Atenas.....          | United Fruit Co.                 | Oct. 30..... | Limon.....           | United Fruit Co.                 |
| Oct. 30..... | Limon.....           | United Fruit Co.                 | Oct. 30..... | Atenas.....          | United Fruit Co.                 |
| Oct. 31..... | Zacapa.....          | United Fruit Co.                 | Nov. 1.....  | Presidente Sarmiento | Argentine Government.            |
| Nov. 1.....  | Cristobal.....       | United Fruit Co.                 | Nov. 2.....  | Atenas.....          | United Fruit Co.                 |
| Nov. 1.....  | Ulua.....            | Royal Netherlands W. I. Mail.    | Nov. 2.....  | Ulua.....            | United Fruit Co.                 |
| Nov. 2.....  | Atenas.....          | United Fruit Co.                 | Nov. 2.....  | Camden.....          | United Fruit Co.                 |
| Nov. 2.....  | Cristobal.....       | United Fruit Co.                 | Nov. 2.....  | Cristobal.....       | Royal Netherlands W. I. Mail.    |
| Nov. 2.....  | Atenas.....          | United Fruit Co.                 | Nov. 2.....  | Atenas.....          | United Fruit Co.                 |
| Nov. 2.....  | Atenas.....          | Panama Railroad Steamship Line.  | Nov. 3.....  | Zacapa.....          | United Fruit Co.                 |
| Nov. 3.....  | Sixola.....          | United Fruit Co.                 | Nov. 3.....  | Santa Marta.....     | United Fruit Co.                 |
| Nov. 3.....  | Logician.....        | Harrison Line.                   | Nov. 3.....  | Sixola.....          | United Fruit Co.                 |
| Nov. 3.....  | Logician.....        | United Fruit Co.                 | Nov. 3.....  | Gen. G. W. Goethals. | Panama Railroad Steamship Line.  |
| Nov. 4.....  | Caribbean.....       | Panama Railroad Cattle Industry. | Nov. 4.....  | Cristobal.....       | Royal Netherlands W. I. Mail.    |
| Nov. 4.....  | Cristobal.....       | Royal Netherlands W. I. Mail.    | Nov. 5.....  | San Bruno.....       | United Fruit Co.                 |
| Nov. 5.....  | San Bruno.....       | United Fruit Co.                 |              |                      |                                  |

\* Other than ships passing through the Canal.

# THE PANAMA CANAL RECORD

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Volume XV. Balboa Heights, C. Z., November 16, 1921. No. 14.

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## **Rate of Traffic This Year Compared with Last Year and Fiscal Year Ending June 30, 1921.**

During the 10 months ending October 31, 1921, the total number of commercial ships passing through the Canal was 2,322, an average of 232.2 per month. At this rate the total for the year would be 2,786. During the calendar year 1920 the number of commercial ships was 2,814, an average of 234.5 per month; and in the fiscal year ending June 30, 1921, the number of commercial ships was 2,892, averaging 241 per month.

If as many as 246 ships make the transit in both November and December of this year the record for this calendar year, in number of ships, will equal that of last year. It will require, however, an average of 285 ships in November and December to bring the total up to the 2,892 ships in the last fiscal year.

In 3 months of this year (January, March, and October) there were more than 246 ships, but there has been no month in which 285 commercial ships have made the transit. The record for any month since the opening of the Canal is 279 ships, in January, 1921.

In cargo carried, the traffic during the 10 months has averaged less than the monthly average for the year 1920 and for the fiscal year 1921.

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## **Hours of Operation of The Panama Canal Coaling Plants.**

Prior to March 21, 1921, the coaling plants of The Panama Canal were operated continuously. Effective that date the Superintendent of the plants was instructed to abolish the third shift at Cristobal, to reduce as far as possible the force at Balboa, and until further notice to suspend all operations at both plants between the hours of 11 p. m. and 7 a. m. This action was taken to reduce operating expenses. Sales had fallen off, and the business done did not justify the maintenance of a maximum force. It was thought that the elimination of the third shift would not cause material inconvenience to shipping.

This was generally true, but it occasionally happened that a vessel began to coal late in the evening and did not finish prior to 11 p. m., when work was knocked off. This resulted in some instances in serious delays, and gave rise to complaint. To remedy this situation the Superintendent of Coaling Plants was instructed under date of August 22, 1921, to complete the bunkering of all ships at Cristobal when once commenced, provided this did not involve substantially more than 4 hours' overtime. At the same time the force at Balboa was reduced to one 8-hour shift working from 7 a. m. to 11 a. m. and from 12 noon to 4 p. m. All vessels passing through the Canal can bunker at Cristobal, and there are very few vessels confining their operations to the Pacific side and depending upon Balboa for coal. Sales from this plant have always been light, and there is no sufficient reason for maintaining the same service there as at Cristobal.



# MOVEMENTS OF OCEAN VESSELS. Week ending at midnight, November 12, 1921.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.           | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Salt water draft. | From—        | For—           | Cargo.            |        | Panama Canal tonnage. |        |
|-----------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------------------|--------------|----------------|-------------------|--------|-----------------------|--------|
|                 | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |                   |              |                | Nature.           | Tons.  | Gross.                | Net.   |
| Barina.         | 1                | 17    | 05             | 6     | 6                  | 06    | 6                | 15    | 25           | Pacific Steam Navigation Co.     | 220.0   | 37.0  | 12.9              | Cristobal.   | Champerico.    | General.          | 400    | 1,634                 | 871    |
| Laura C. Hall.  | 26               | 15    | 03             | 6     | 6                  | 06    | 6                | 13    | 33           | Pacific Metals Corporation.      | 81.0    | 25.6  | 9.0               | Cristobal.   | Buenaventura.  | General.          | 10     | 132                   | 72     |
| Monsale.        | 29               | 13    | 45             | 6     | 6                  | 15    | 6                | 13    | 38           | Pacific Metals Trading Co.       | 102.6   | 22.6  | 9.6               | Cristobal.   | Kobe.          | Ballast.          | 6,415  | 6,095                 | 4,381  |
| Howick Hall.    | 3                | 22    | 56             | 6     | 7                  | 00    | 6                | 15    | 30           | Island Steamship Line            | 400.8   | 51.0  | 24.8              | New Orleans. | Port Chalmers. | General and iron. | 2,450  | 10,708                | 8,116  |
| Port Kambala.   | 6                | 13    | 15             | 6     | 7                  | 00    | 6                | 15    | 30           | Commonwealth and Dom. Line       | 481.2   | 62.3  | 24.0              | Glasgow.     | Auckland.      | Coal              | 8,250  | 8,772                 | 6,461  |
| Twelfth St.     | 6                | 22    | 14             | 7     | 7                  | 37    | 7                | 20    | 15           | Hain Steamship Line              | 469.8   | 58.2  | 24.4              | Curdif.      | San Francisco. |                   |        |                       |        |
| Gen. J. Frank.  | 7                | 12    | 47             | 7     | 7                  | 55    | 7                | 15    | 01           | United States Army               | 172.0   | 32.0  | 12.0              | Cienfuegos.  |                |                   |        |                       |        |
| Harry Lucken.   | 7                | 15    | 49             | 8     | 6                  | 28    | 8                | 14    | 03           | United States Army               | 449.0   | 60.0  | 25.8              | New York.    | Los Angeles.   | General.          | 6,500  | 9,202                 | 6,853  |
| Willoughby.     | 7                | 20    | 47             | 8     | 7                  | 23    | 8                | 14    | 49           | Williams S. S. Co. (S. B.).      | 434.3   | 57.7  | 21.0              | New York.    | Los Angeles.   | General.          | 4,000  | 7,933                 | 5,882  |
| Milan Maru.     | 8                | 6     | 32             | 8     | 8                  | 49    | 8                | 16    | 03           | Kokusai Kaisha                   | 490.0   | 58.0  | 23.2              | New York.    | Puget Sound.   | General.          | 4,887  | 5,886                 | 4,303  |
| Nebraska.       | 8                | 6     | 24             | 8     | 12                 | 05    | 8                | 19    | 55           | Royal Mail Steam Packet Co.      | 450.0   | 58.0  | 19.3              | London.      | Vancouver.     | General.          | 180    | 8,878                 | 6,588  |
| Omega.          | 8                | 20    | 22             | 9     | 8                  | 15    | 9                | 18    | 17           | Peruvian Government.             | 311.3   | 43.1  | 22.3              | Barry.       | Callao.        | Coal and cement.  | 3,866  | 2,571                 | 2,357  |
| Potosi.         | 8                | 20    | 08             | 9     | 11                 | 15    | 9                | 18    | 57           | Pacific Steam Navigation Co.     | 380.0   | 49.0  | 18.6              | Hull.        | Colon.         | General.          | 2,060  | 5,507                 | 4,296  |
| Puget Sound.    | 9                | 17    | 04             | 10    | 6                  | 25    | 10               | 14    | 12           | Pacific Steamship Co. (S. B.).   | 517.0   | 72.0  | 23.0              | Baltimore.   | Kobe.          | General and oil.  | 7,715  | 54,15                 | 23,410 |
| Pewee.          | 2                | 7     | 05             | 10    | 7                  | 18    | 10               | 15    | 05           | United States Navy               | 455.0   | 56.0  | 27.3              | Port Arthur. | Honolulu.      | General.          | 3,062  | 4,791                 | 3,374  |
| Roland.         | 9                | 18    | 14             | 10    | 8                  | 47    | 10               | 16    | 24           | Roland Line                      | 360.9   | 51.0  | 20.0              | Bremen.      | Guayaquil.     | General.          | 1,330  | 8,345                 | 4,998  |
| Ortega.         | 9                | 20    | 07             | 10    | 9                  | 17    | 10               | 17    | 17           | Pacific Steam Navigation Co.     | 465.0   | 56.0  | 23.8              | Liverpool.   | Valparaiso.    | General.          | 11,018 | 9,744                 | 7,065  |
| Levant Arrow.   | 9                | 22    | 20             | 10    | 10                 | 35    | 10               | 18    | 25           | Standard Transportation Co.      | 468.3   | 62.7  | 28.0              | Sabine.      | Shanghai.      | Fuel oil.         | 311    | 8,838                 | 2,950  |
| Mantaro.        | 4                | 22    | 36             | 10    | 11                 | 27    | 10               | 19    | 15           | Peruvian Line.                   | 367.3   | 46.0  | 19.7              | Cristobal.   | Mollendo.      | General.          | 4,495  | 7,177                 | 3,877  |
| Woodara.        | 10               | 6     | 35             | 10    | 11                 | 50    | 10               | 20    | 08           | British India Steam Nav. Co.     | 449.0   | 58.0  | 29.3              | London.      | Portland.      | Ballast.          | 8,334  | 5,332                 | 3,382  |
| Lopez.          | 10               | 7     | 24             | 10    | 12                 | 13    | 10               | 20    | 08           | E. L. De Witt                    | 23.0    | 4.0   | 4.0               | Cristobal.   | Barboa.        |                   | 1      |                       | 1      |
| Remus.          | 10               | 17    | 11             | 10    | 6                  | 20    | 11               | 14    | 05           | A. O. Lindvig                    | 350.0   | 50.2  | 23.0              | Baltimore.   | Callao.        | Coal and coke.    | 4,495  | 7,177                 | 3,877  |
| Surga.          | 10               | 15    | 28             | 11    | 7                  | 30    | 11               | 14    | 59           | Barber Lines                     | 375.3   | 52.0  | 24.0              | New York.    | Hongkong.      | General.          | 5,937  | 5,904                 | 4,324  |
| Eastern Moon.   | 10               | 13    | 37             | 11    | 8                  | 22    | 11               | 17    | 03           | U. S. & Australia Line (S. B.).  | 384.8   | 51.0  | 27.5              | New York.    | Brisbane.      | General.          | 37     | 4,070                 | 2,933  |
| Mont Cervin.    | 10               | 21    | 38             | 11    | 9                  | 15    | 11               | 17    | 41           | Cia. Gen. Transports Maritimes.  | 340.0   | 50.0  | 16.0              | Marselles.   | Port Townsend. | General.          | 4,000  | 7,156                 | 5,058  |
| Dakota.         | 11               | 6     | 40             | 11    | 10                 | 35    | 11               | 17    | 55           | American-Hawaiian Line           | 407.7   | 53.7  | 21.11             | New York.    | Portland.      | General.          | 7,714  | 7,285                 | 5,256  |
| Steel Age.      | 11               | 8     | 00             | 11    | 10                 | 35    | 11               | 18    | 54           | United States Steel Products Co. | 395.5   | 53.0  | 27.0              | Baltimore.   | Kobe.          | General steel.    | 1,489  | 9,037                 | 6,089  |
| City of Naples. | 11               | 12    | 55             | 11    | 13                 | 20    | 11               | 19    | 48           | Ellerman Lines                   | 418.3   | 53.3  | 16.0              | Newport.     | Seattle.       | Ballast.          | 2,500  | 5,608                 | 4,297  |
| Essequibo.      | 11               | 11    | 40             | 12    | 6                  | 15    | 12               | 13    | 49           | Pacific Steam Navigation Co.     | 450.0   | 57.0  | 23.6              | New York.    | Valparaiso.    | General.          | 1,489  | 9,037                 | 6,089  |
| Havana Maru.    | 11               | 14    | 35             | 12    | 7                  | 10    | 12               | 15    | 25           | Osaka Shosen Kaisha              | 407.0   | 53.0  | 27.0              | New York.    | Shanghai.      | General, other.   | 6,435  | 6,234                 | 4,500  |
| Mundella.       | 11               | 18    | 50             | 12    | 8                  | 25    | 12               | 16    | 07           | Munson Steamship Line            | 370.0   | 50.0  | 18.0              | Galeston.    | Los Angeles.   | Sulphur.          | 2,500  | 5,608                 | 4,297  |
| Pear Branch.    | 11               | 21    | 40             | 12    | 9                  | 20    | 12               | 16    | 55           | F. and W. Ritson                 | 412.0   | 53.0  | 19.6              | London.      | Valparaiso.    | General.          | 2,007  |                       |        |
| Robert Dollar.  | 12               | 11    | 10             | 12    | 10                 | 12    | 12               | 19    | 19           | Canadian Robert Dollar Co.       | 523.5   | 63.5  | 21.0              | New York.    | Vancouver.     | General.          | 1,220  | 2,835                 | 1,827  |
| Santa Tecla.    | 12               | 4     | 48             | 12    | 13                 | 07    | 12               | 19    | 52           | W. R. Grace & Co.                | 298.6   | 49.0  | 17.0              | New York.    | Buenaventura.  | General.          |        |                       |        |

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| Ship               | Date     | Vessel | Line  | From     | Date | Vessel | Line      | To                             | Remarks |
|--------------------|----------|--------|-------|----------|------|--------|-----------|--------------------------------|---------|
|                    |          |        |       |          |      |        |           |                                |         |
| Abercos.           | 8 21 00  | 9      | 7 49  | 9 15 50  | 9    | 21 25  | American  | Pacific Steamship Co.          | 401 4   |
| Salvador.          | 8 22 30  | 9      | 8 34  | 9 15 22  | 13   | 9 20   | British   | Pacific Steam Navigation Co.   | 215 0   |
| Mineda.            | 9 4 00   | 9      | 8 46  | 9 15 47  | 10   | 12 30  | American  | Grace Line.                    | 298 6   |
| Valparaiso.        | 9 7 45   | 10     | 8 46  | 10 15 43 | 11   | 12 37  | Swedish   | Johnson Line.                  | 367 0   |
| Boston Maru.       | 10 8 05  | 10     | 9 38  | 10 17 16 | 11   | 13 50  | Japanese. | Kokusai Kisen Kaisha           | 400 0   |
| Edward Luckenbach. | 10 9 15  | 10     | 10 47 | 10 17 44 | 10   | 17 44  | American  | Luckenbach Line.               | 456 0   |
| Hawkeye State.     | 10 10 13 | 11     | 6 50  | 11 13 58 | 11   | 14 39  | American  | Matson Navigation Co. (S. B.). | 517 0   |
| Balboa.            | 11 5 25  | 11     | 7 52  | 11 13 07 |      |        | American  | Colombian Maritime Co.         | 190 0   |
| Northumber-        | 11 5 00  | 11     | 8 56  | 11 16 07 | 11   | 16 07  | British   | Federal Steam Navigation Co.   | 530 0   |
| Acajutla.          | 11 6 00  | 11     | 9 05  | 11 16 29 |      |        | British   | Pacific Steam Navigation Co.   | 215 0   |
| Newport.           | 11 12 20 | 11     | 13 33 | 11 19 35 |      |        | American  | Pacific Mail Steamship Co.     | 236 0   |
| Hattie Lucken-     | 11 13 55 | 11     | 14 28 | 11 21 28 | 11   | 21 28  | American  | Luckenbach Line.               | 331 5   |
| Brinkenhead.       | 12 4 50  | 12     | 7 45  | 12 16 00 | 13   | 18 00  | American  | Vacuum Oil Co.                 | 435 0   |
| Dakar Maru.        | 12 6 00  | 12     | 8 45  | 12 16 49 | 13   | 7 05   | Japanese. | Nippon Yusen Kaisha            | 420 0   |
| Cedar Branch.      | 12 13 30 | 12     | 13 49 | 12 21 15 | 12   | 22 27  | British   | P. and W. Wilson.              | 300 5   |
| Jan Van Nassau.    | 11 23 00 | 12     | 14 09 | 12 22 45 |      |        | Dutch     | Royal Netherlands W. I. Mail   | 316 2   |
| S. C. 284          | 12 13 39 | 12     | 14 18 | 12 20 55 |      |        | American  | United States Navy             | 110 0   |

\* Motor ship.

\* Shingles, copper, paper, canned goods, wool, leather, dried fruits, onions, etc.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |             |                                  |                                   | *DEPARTURES. |              |                                  |                                                |
|------------|-------------|----------------------------------|-----------------------------------|--------------|--------------|----------------------------------|------------------------------------------------|
| Date.      | Vessel.     | Line.                            | From                              | Date.        | Vessel.      | Line.                            | For                                            |
| Nov. 6     | Abangarez.  | United Fruit Co.                 | New Orleans via Habana.           | Nov. 6       | Abangarez.   | United Fruit Co.                 | Bocas del Toro.                                |
| Nov. 7     | Parismina   | United Fruit Co.                 | New Orleans.                      | Nov. 6       | Logician.    | Harrison Line                    | Puerto Cortez.                                 |
| Nov. 7     | San Bruno   | United Fruit Co.                 | New York.                         | Nov. 7       | Caribbean.   | Panama Railroad Cattle Industry. | Cartagena.                                     |
| Nov. 8     | San Gil     | United Fruit Co.                 | Boston via Habana and Port Limon. | Nov. 7       | Cristobal    | Panama Railroad Steamship Line.  | Norfolk.                                       |
| Nov. 8     | Tolosa      | United Fruit Co.                 | New York via Habana.              | Nov. 8       | San Benito.  | United Fruit Co.                 | Boston via Port Limon.                         |
| Nov. 8     | Abangarez.  | United Fruit Co.                 | Bocas del Toro.                   | Nov. 9       | San Gil      | United Fruit Co.                 | Boston.                                        |
| Nov. 9     | Perou       | French Line.                     | Bordeaux via wayports.            | Nov. 9       | Tolosa       | United Fruit Co.                 | New York via Port Limon and Habana.            |
| Nov. 9     | Valerian    | British Government.              | Cartagena.                        | Nov. 9       | Parismina    | United Fruit Co.                 | New Orleans via Bocas del Toro and Port Limon. |
| Nov. 11    | Leon XIII   | N. O. & S. A. S. Line.           | Habana.                           | Nov. 9       | Abangarez.   | United Fruit Co.                 | New Orleans.                                   |
| Nov. 12    | Columbia    | Elders & Fyffes, Ltd.            | New Orleans.                      | Nov. 12      | Bayano       | French Line.                     | Kingston.                                      |
| Nov. 12    | Bayano      | Panama Railroad Steamship Line.  | Port Limon.                       | Nov. 12      | Perou        | French Line.                     | Have via Puerto Colombia.                      |
| Nov. 12    | Colon       | Panama Railroad Cattle Industry. | New York via Haiti.               | Nov. 12      | Boston Maru. | Kokusai Kisen Kaisha.            | Norfolk.                                       |
| Nov. 12    | Caribbean   |                                  | Cartagena via Cispata.            |              |              |                                  |                                                |
| Nov. 12    | Boston Maru |                                  | High seas.                        |              |              |                                  |                                                |

\* Gunboat.

## PORT OF BALBOA.

| Date.  | Vessel.     | Line.             | From      | Date.  | Vessel.     | Line.             | For         |
|--------|-------------|-------------------|-----------|--------|-------------|-------------------|-------------|
| Nov. 7 | Ginyo Maru. | Trans-Oceanic Co. | Hongkong. | Nov. 9 | Ginyo Maru. | Trans-Oceanic Co. | Valparaiso. |
| Nov. 9 | Perou.      | Trans-Oceanic Co. | Portland. | Nov. 9 | Perou.      | Trans-Oceanic Co. | Valparaiso. |

\* Other than ships passing through the Canal.

### One Hundred Per Cent Increase Over Two Trade Routes.

The United States coastwise trade through the Panama Canal during August, September, and October, 1921, was more than double the trade for the corresponding period in 1920. The cargo handled in 1920 amounted to 268,747 tons, and in 1921 it aggregated 554,834 tons. Of the latter total, 214,449 tons was westbound, and 340,385 tons eastbound, the trade being thus fairly well balanced, with reasonable cargoes offering in either direction.

Another trade that shows an increase of more than 100 per cent is the eastbound trade from the west coast of the United States to Europe. The cargo handled in August, September, and October, 1921, was 582,719 tons, as compared with 285,441 tons in 1920. But the cargo moving in the opposite direction, from Europe to the west coast of the United States, was comparatively insignificant in 1920, amounting to only 44,978 tons for the 3 months under review, and declined in 1921 to 11,855 tons. The majority of the 62 vessels proceeding this year from Europe to the west coast went out in ballast, besides which 15 foreign vessels went out in ballast from Atlantic ports of the United States to the west coast to load return cargo for Europe.

Closely connected with the two trades dealt with in the preceding paragraphs are the Canadian coastwise trade, the trade between western Canada and Europe, and the trade between either seaboard of Canada and the opposite seaboard of the United States, in all of which there has been development.

### Notice to Mariners.—Establishment of Light at Almirante, R. of P.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., November 8, 1921.

CIRCULAR No. 643-96.

The following advice has been received from the United Fruit Company at Almirante, Republic of Panama:

"One thousand watt electric light now hung on Almirante wireless tower at 393-foot elevation above sea level. Location of tower, latitude 9° 17' 30" North, longitude 82° 22' 54" West. Light is pointed exactly at Toro Point (Cape Toro at Bocas del Toro) Lighthouse, bearing North, 70° true East."

JAY J. MORROW,  
Governor.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending November 12, 1921.

| Name of vessel.              | Line or charterer.                    | Arrived.        | Departed.       | Cargo—     |        |
|------------------------------|---------------------------------------|-----------------|-----------------|------------|--------|
|                              |                                       |                 |                 | Discharged | Laded. |
|                              |                                       |                 |                 | Tons.      | Tons.  |
| San Juan.....                | Pacific Mail Steamship Co.....        | October 31..... | October 31..... | 31         |        |
| Wheaton.....                 | Army Transport Service.....           | October 31..... |                 | 2,419      |        |
| Canada Maru.....             | Osaka Shosen Kaisha.....              | November 1..... | November 1..... |            | 4      |
| Barima.....                  | Pacific Steam Navigation Co.....      | November 1..... | November 1..... | 4          |        |
| Ansaldo San Giorgio III..... | Societa Nazionale di Navigacion.....  | November 2..... | November 5..... | 70         | 50     |
| Jamaica.....                 | Pacific Steam Navigation Co.....      | November 2..... | November 2..... | 2          |        |
| San Juan.....                | Pacific Mail Steamship Co.....        | November 4..... | November 4..... | 1          | 1      |
| Quilpue.....                 | Pacific Steam Navigation Co.....      | November 4..... | November 4..... |            | 11     |
| Laura C. Hall.....           | Pacific Metals Transportation Co..... | November 6..... | November 6..... |            | 60     |
| Ginyo Maru.....              | Toyo Kisen Kaisha.....                | November 7..... | November 9..... | 1,156      |        |
| Salvador.....                | Pacific Steam Navigation Co.....      | November 9..... | November 9..... | 1          |        |
| Pacifico.....                | Trans-Oceanic Co.....                 | November 9..... | November 9..... |            | 55     |

<sup>1</sup> U. S. Army transport.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing  
from Port of Cristobal for Two Weeks Ending November 12, 1921.**

| Name of vessel.      | Line or charterer.               | Arrived.     | Departed.    | Cargo—           |                  |
|----------------------|----------------------------------|--------------|--------------|------------------|------------------|
|                      |                                  |              |              | Discharged       | Laded.           |
|                      |                                  |              |              | <i>Tons.</i>     | <i>Tons.</i>     |
| Grelrosa.            | Pacific Steam Navigation Co.     |              | October 30.  |                  | 690              |
| Renacio.             | Chilean Line.                    |              | October 30.  |                  | 100              |
| Atenas.              | United Fruit Co.                 | October 30.  | October 30.  | ( <sup>1</sup> ) | 34               |
| Collegian.           | Harrison Line.                   | October 30.  | October 31.  | ( <sup>1</sup> ) | 254              |
| Manavi.              | Pacific Steam Navigation Co.     |              | October 31.  |                  | 35               |
| Quillota.            | Pacific Steam Navigation Co.     | October 31.  | November 1.  | 151              | 92               |
| Camden.              | United Fruit Co.                 | October 31.  | November 2.  | 8,630            | ( <sup>2</sup> ) |
| Zacapa.              | United Fruit Co.                 | October 31.  | November 3.  | 902              | 200              |
| Imperial.            | Chilean Line.                    | October 31.  | November 4.  | 353              | 368              |
| San Juan.            | Pacific Mail Steamship Co.       | October 31.  | November 4.  | 689              | 1,664            |
| Gen. G. W. Goethals. | Panama Railroad Steamship Line.  |              | November 4.  |                  | 1,503            |
| Crijnsen.            | Royal Netherlands W. I. Mail.    | November 1.  | November 2.  | 120              | ( <sup>2</sup> ) |
| Bemdijk.             | Holland-American Line.           | November 1.  | November 1.  | 324              | 83               |
| Bologna.             | Italian Steamship Line.          | November 1.  | November 4.  | ( <sup>1</sup> ) | 345½             |
| Barima.              | Pacific Steam Navigation Co.     | November 1.  |              | 79               |                  |
| Ulua.                | United Fruit Co.                 | November 2.  | November 2.  | 168              | 349              |
| Atenas.              | United Fruit Co.                 | November 2.  | November 2.  | 8½               | 2                |
| Ceres.               | Royal Netherlands W. I. Mail.    | November 2.  | November 3.  | 130              | 213              |
| Santa Marta.         | United Fruit Co.                 | November 2.  | November 3.  | 601              | 86               |
| Gen. O. H. Ernst.    | Panama Railroad Steamship Line.  | November 2.  | November 4.  | 335              | 237              |
| Gen. H. F. Hodges.   | Panama Railroad Steamship Line.  | November 2.  | November 5.  | 74               | 16               |
| Cristobal.           | Panama Railroad Steamship Line.  | November 2.  |              |                  |                  |
| Sixtoala.            | United Fruit Co.                 | November 3.  | November 3.  | 9,615½           | 22               |
| Jamaica.             | Pacific Steam Navigation Co.     | November 3.  |              | 75               |                  |
| Logician.            | Harrison Line.                   | November 3.  |              | 461              |                  |
| Quilpué.             | Pacific Steam Navigation Co.     | November 3.  | November 4.  | 74               | 90               |
| Mantaro.             | Peruvian Line.                   | November 4.  |              | 1,962            |                  |
| Caribbean.           | Panama Railroad Cattle Industry. | November 4.  |              | 750              |                  |
| Crijnsen.            | Royal Netherlands W. I. Mail.    | November 4.  | November 5.  | ( <sup>1</sup> ) | 736              |
| San Bruno.           | United Fruit Co.                 | November 5.  | November 5.  | 8                | 323              |
| Barima.              | Pacific Steam Navigation Co.     | November 5.  | November 6.  |                  | 399              |
| Logician.            | Harrison Line.                   |              | November 6.  |                  | 633              |
| Abangarez.           | United Fruit Co.                 | November 6.  | November 6.  | ( <sup>1</sup> ) | 1                |
| Caribbean.           | Panama Railroad Cattle Industry. |              | November 7.  |                  | 63               |
| Jamaica.             | Pacific Steam Navigation Co.     |              | November 8.  |                  | 3                |
| Parismina.           | United Fruit Co.                 | November 7.  | November 9.  | 888              | 3                |
| Potosi.              | Pacific Steam Navigation Co.     | November 8.  | November 9.  | ( <sup>1</sup> ) | 44               |
| San Gil.             | United Fruit Co.                 | November 8.  | November 9.  | 15               | ( <sup>2</sup> ) |
| Tolosa.              | United Fruit Co.                 | November 8.  | November 9.  | 638              | 49               |
| Salvador.            | Pacific Steam Navigation Co.     | November 9.  |              | 443              |                  |
| Perou.               | French Line.                     | November 9.  | November 12. | 14               | 334              |
| Abangarez.           | United Fruit Co.                 | November 9.  | November 9.  | 1                | 10               |
| Mineola.             | Grace Line.                      | November 9.  | November 10. | 75               | ( <sup>2</sup> ) |
| Balboa.              | Colombian Maritime Co.           | November 11. |              | 599              |                  |
| Newport.             | Pacific Mail Steamship Co.       | November 11. |              | 146½             |                  |
| Leon XIII.           | Spanish Line.                    | November 11. |              | 140              |                  |
| Ansaldo VIII.        | National Navigation Society.     | November 11. | November 12. | 35               | ( <sup>2</sup> ) |
| Esequeibo.           | Pacific Steam Navigation Co.     | November 11. | November 12. | 114              | ( <sup>2</sup> ) |
| Acajutla.            | Pacific Steam Navigation Co.     | November 11. |              | 105              |                  |
| Mantaro.             | Peruvian Line.                   |              | November 10. |                  | 313              |
| Dakar Maru.          | Nippon Yusen Kabushiki Kaisha.   | November 12. |              | 90               |                  |
| Colon.               | Panama Railroad Steamship Line.  | November 12. |              | 2,650            |                  |
| Jan Van Nassau.      | Royal Netherlands W. I. Mail.    | November 12. |              | 1                |                  |
| Caribbean.           | Panama Railroad Cattle Industry. | November 12. |              | 800              |                  |
| Bayano.              | Elders & Fyffes, Ltd.            | November 12. | November 12. | 23               | ½                |

<sup>1</sup> No cargo discharged.

<sup>2</sup> No cargo laded.

### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the two weeks ended November 12:

Steamship *Lompoc*, drill holes through hubs of 2 drums to free drums from shaft; manufacture 2 drifts to use in removing drums from shafts; machine 1 set collar; true up 1 drum shaft and fit to drum; manufacture new drum shaft; disassemble old drums and shaft; remove both gears and reassemble drums and shafts; chip both new drum jaws to conform with jaws on gear; install brake bands; manufacture one 3-inch galvanized pipe bend, with stop valve and tee assembled; manufacture 48 kinghorn valves; furnish gasoline and use of heating equipment to heat heads; U. S. supply boat *No. 2*, install band on reverse gear with screw and lever arrangement; renew brass yoke on clutch engager; overhaul reciprocating circulating pump;



overhaul air pump on main engine; overhaul spray air gauge; install oil cooler for crank case lubricating oil; install oil strainer on outside of crank case; install valve in filling pipe to gravity oil tank, and fit by-pass; overhaul fuel pump; install discharge pipe with valve, on after end of manifold; alter discharge valve on first stage air compressor; U. S. A. T. *Wheaton*, manufacture 1 new armature shaft for 15 K. W. armature; crane boat *La Valley*, calk seams; renew bad order rivets; install patch on bottom; install 2 patches between fender angles, where bolt holes could not be welded; install 3 patches on deck where plates are broken; barge *No. 136*, test all tanks and stop all leaks; remove cement from hole through deck, and patch; renew side fenders on gear side; renew end fenders and make necessary alterations; clean and paint outside of hull up to light water line; renew bitt on gear side; renew loose rivets on strongback girders; renew 3 strongback plates; launches *Goodwill*, furnish crane service to handle launch; *Pacific*, manufacture and install 1 water-tight bulkhead, 4 frames from the stem; U. S. S. *Niagara*, repair leak in water end of evaporator feed pump; renew section of discharge line of ash ejector; repair water cylinder on flushing pump; repair cracked flange on fireroom steam line; perform necessary repairs to 1 U. S. Navy deck clock; steamships *Ginyo Maru*, make necessary repairs to telemotor; *Hawkeye State*, weld discharge manifold for ice machine; *Imperial*, dock, stage, clean and paint bottom; fair tip of 1 propeller blade; renew shoe plate, aft; install zincs; open up, grind in, clean, paint, and repair sea valves as required; *Ansaldo San Giorgio II*, manufacture 24 high pressure snap rings; 12 valve coil springs, 1 socket wrench and 1 bronze bull ring for high pressure air compressor; *Stanley Dollar*, manufacture 1 thumb screw for sextant; barge *No. 133*, dock, stage, and clean; scale and paint bottom to light load line; renew strongback supports and loose rivets on strongback girders; renew end fenders and make necessary alterations; remove cement from hole through deck and install patch; straighten fender angles and renew side fender on loading side; clean and test all tanks and stop leaks that develop; air compressor *No. 27*, dock, stage, and clean; scale and paint bottom to light load line; U. S. S. *Sacramento*, manufacture and install 1 lower boom; manufacture and install 1 ventilator cowl for lead to magazine; manufacture 2 wireless spreaders; steamship *Eastern Moon*, manufacture fire tools; coal hoist *No. 1*, dock, stage, and clean; scale and paint bottom to light load line; barge *No. 148*, dock, stage, and clean; scale and paint bottom to light load line; dredge *Cascadas*, replace all bad order tubes with tubes furnished by Dredging Division and install zinc plates on condenser heads.

#### PREVIOUSLY REPORTED.

Launch *Wilson B. Gailher*, scrape and clean bottom; perform general hull repairs; steamship *Panama*, reboiling and general repairs to machinery and hull; dredge *No. 84*, perform heavy running repairs; drill boat *Teredo No. 2*, dock, stage, and clean; scale and paint bottom to light load line; barge *No. 138*, dock, stage, and clean; scale and paint bottom to light load line.

The following vessels were at the Cristobal shops for repairs during the two weeks ended November 14:

Steamship *San Juan*, clear circulating water space in H. P. go-ahead slide valve; refit metallic packing; overhaul main air pump, etc.; U. S. S. *O-12*, renew all rivets in engine foundations; overhaul sea valves; repair steering and diving gear; overhaul hydroplane; renew engine foundation knees; refit shifting collars on tail shaft; weld patches on mufflers, etc.; U. S. S. *Pecos*, rebore H. P. cylinder of ice machine; machine 1 valve; make 8 oil strainers; renew tubes where necessary in 4 boilers, etc.; steamships *Jamaica*, draw H. P. piston; true up rod and install new metallic packing; fit new tail shaft; calk rivets in hull where directed; repair steering gear; paint hull, etc.; *General H. F. Hodges*, braze flanges on receiver pipe; install 2 tubes in starboard boiler; manufacture 8 valves for feed and bilge pumps; *Caribbean*, repair ash hoist engine; repair starboard main engine drain pipes; anneal steering chain and rebush sheaves for same; repair 5 ice cans; repair freeing ports; *Cristobal*, repair lead sanitary pipe in cargo hold; fit elbow on dry pipe, etc.; *Mantaro*, cut out and weld crack in end plate in starboard boiler; renew fusible plugs and expand tubes in center combustion chamber, starboard boiler; renew hot water pipe, etc.; *Crijnsen*, *Barima*, *Bologna*, and tug *Tavernilla*, minor repairs; supply boat *No. 1*, weld and reinstall cylinder on main engine; steamships *Acajula*, reverse wild cat on anchor windlass; *Colon*, roll tubes in after port boiler; repair steam line to whistle; manufacture 2 hatch battens; weld 2 handles for shaper; repair bracket for idler gear to feed screw; repair gear and make one pinion for lathe; launch *Lieut. David Putnam*, install new propeller.



## PREVIOUSLY REPORTED.

Tug *Mensabe*, repair hull and rudder; roll tubes in boiler and test same, etc.; motor ship *Laura C. Hall*, install scuppers; manufacture strainers; install knees in ship's hold, etc.; launch *Gloriana*, repair hull and keel; renew awnings; overhaul engine, etc.; steamship *Ampat*, manufacture, fit, and install new rudder; install asbestos lining and tubes in both boilers; repair sea valves; paint bottom, etc.

### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective November 1, 1921:

| Commodities.                                                   | Unit.          | Price.  |
|----------------------------------------------------------------|----------------|---------|
| Brass, bar, average.....                                       | Lb.            | \$0.375 |
| Brass, sheet, average.....                                     | Lb.            | .41     |
| Bronze, Tobin, average.....                                    | Lb.            | .31     |
| Gasoline, motor grade.....                                     | Gal.           | .40     |
| Metal, yellow.....                                             | Lb.            | .34     |
| Oakum, Navy, spun.....                                         | Lb.            | .175    |
| Oakum, Navy, unspun.....                                       | Lb.            | .175    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....     | Bbl of 42 gals | 3.50    |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge..... | Bbl of 42 gals | 1.70    |
| Oil, ammonia, cylinder.....                                    | Gal.           | .51     |
| Oil, burning.....                                              | Gal.           | 1.25    |
| Oil, engine, gas, medium, in tins.....                         | Gal.           | .675    |
| Oil, engine, gas, medium, in barrels.....                      | Gal.           | .49     |
| Oil, engine, gas, extra heavy, in barrels.....                 | Gal.           | 1.04    |
| Oil, engine, gas, extra heavy, in cases.....                   | Gal.           | 1.125   |
| Oil, engine, gas, in drums, medium.....                        | Gal.           | .65     |
| Oil, kerosene, in drums.....                                   | Gal.           | .20     |
| Oil, marine engine.....                                        | Gal.           | 1.04    |
| Oil, marine engine.....                                        | Gal.           | .99     |
| Paint, lead, white, dry.....                                   | Lb.            | .14     |
| Paint, lead, white, in oil.....                                | Lb.            | .16     |
| Paint, zinc, white, dry.....                                   | Lb.            | .20     |
| Paint, zinc, white, in oil.....                                | Lb.            | .20     |
| Grease, gear, black.....                                       | Lb.            | .10     |
| Grease, yellow, cup, No. 3.....                                | Lb.            | .125    |
| Grease, yellow, cup, No. 5.....                                | Lb.            | .10     |
| Soda, ash.....                                                 | Lb.            | .04     |
| Waste, cotton, colored.....                                    | Lb.            | .175    |
| Waste, cotton, white.....                                      | Lb.            | .20     |

### Executive Order.\*

**Amending the Executive Order of August 8, 1918, concerning passport control so far as it Applies to the Entry of Aliens into the Panama Canal Zone.**

By virtue of the authority vested in me by the Act approved May 22, 1918, entitled "An Act to Prevent in Time of War Departure from and Entry into the United States Contrary to the Public Safety," as extended by the Act approved March 2, 1921, entitled "An Act Making Appropriations for the Diplomatic and Consular Service for the fiscal year ending June 30, 1922," I, Warren G. Harding, President of the United States of America, hereby amend the Executive Order of August 8, 1918, prescribing "Rules and Regulations Governing the Issuance of Permits to Enter and Leave the United States," by the following provision:

Hereafter, aliens entering the Panama Canal Zone shall not be required to present passports visaed by consular officers of the United States, nor shall masters of vessels which are merely passing through the Canal, be required to submit crew lists visaed by American consular officers: Provided, however, That aliens coming to the continental United States or to insular possessions of the United States from the Panama Canal Zone shall be required to present passports visaed by consular officers of the United States at Panama City or Colon, unless they shall have resided in the Panama Canal Zone continuously for at least one year prior to their coming to the United States, or unless they shall have obtained American visas elsewhere: And provided further, That the names of aliens who ship in ports of the Canal Zone on vessels

\* This Order is being published as Panama Canal Circular No. 601-125.

sailing therefrom to ports of the continental United States or its insular possessions must appear upon crew lists visaed by consular officers of the United States at Panama City or Colon, or by the Shipping Commissioner or Deputy Shipping Commissioners of the Canal Zone.

When the crew list is visaed by the Shipping Commissioner or a Deputy Shipping Commissioner, the usual consular fee will not be collected for such service.

The Executive Order of April 7, 1921, concerning this subject, is hereby revoked.

WARREN G. HARDING.

THE WHITE HOUSE,  
October 18, 1921.

[No. 3562.]

### Raffles in Panama for Charitable Purposes Only.

The President of Panama has issued a decree (No. 189 of 1921, dated October 13, 1921) requiring that raffles held in Panama be under permit from the chief of police of the municipality in which held, and that permits will be granted by the chiefs of police only "when in their judgment, sufficient guarantee is given that the entire product therefrom is going to be used for some clear and particular charitable purpose.

### Deceased Employees.

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

| Name.                         | Check No. | Native of—    | Isthmian residence. | Employed by—           | Date of death.      |
|-------------------------------|-----------|---------------|---------------------|------------------------|---------------------|
| Charles Best.....             | 58042     | Barbados..... | Colon.....          | Mechanical Division... | September 24, 1921. |
| Robert McKenzie.....          | 44652     | Jamaica.....  | Colon.....          | R. and F. Agent.....   | October 3, 1921.    |
| Rosalio Gonzalez.....         | 27895     | Colombia..... | Colon.....          | R. and F. Agent.....   | July 14, 1921.      |
| Edward Drake<br>(Drakes)..... | 30755     | Barbados..... | Colon.....          | R. and F. Agent.....   | September 30, 1921. |
| Felix Appleton.....           | 29488     | Jamaica.....  | Colon.....          | Mun. Eng. Div.....     | October 14, 1921.   |
| John Edwards.....             | 28509     | Jamaica.....  | Corozal.....        | Mun. Eng. Div.....     | October 23, 1921.   |

### Official Circular.

#### Department of Operation and Maintenance.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., November 8, 1921.

CIRCULAR No. 660-55:

1. As a step in carrying out the directions of the Secretary of War, as contained in his letter of October 18, 1921, that the Engineer of Maintenance should be relieved of direct charge of various divisions, the following divisions of the Department of Operation and Maintenance will, effective November 10, 1921, be under the supervision of the Assistant Engineer of Maintenance, to whom the officials in charge will report:

Electrical Division.  
Division of Lock Operation.  
Municipal Engineering Division.  
Section of Meteorology and Hydrography.  
Section of Surveys.  
Office Engineer.  
Gatun Dam and Backfill.

2. The Superintendent of Dredging will continue to report to the Engineer of Maintenance, as at present.

JAY J. MORROW,  
Governor.

### Current Net Prices on Coal, Fuel Oil, and Diesel Oil.

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or less than 50 tons, the price is \$15 per ton at Cristobal, \$18 at Balboa.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z."

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

# THE PANAMA CANAL RECORD

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at Cristobal, C. Z., under the Act of March 3, 1879.



Volume XV. Balboa Heights, C. Z., November 23, 1921. No. 15.

## Exemption from Tolls for Vessels Transiting Canal from Cristobal to Balboa for Sake of Repairs at Balboa Shops.

A cable message from the Chief of Office, in Washington, under date of November 19 advises that the President signed an Executive Order on November 17, exempting from payment of tolls vessels which make the transit of the Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops. The full text of the order will be published upon receipt from Washington. Charges will be made for pilotage and lockages, and towage when used.

The purpose of this change is to make the repair facilities at Balboa, and especially the 1,000-foot dry dock, readily available to ships at the Atlantic terminal as well as the Pacific. Under the previous law it was necessary to collect tolls on ships which made the transit solely for the purpose of repairs. In a few instances ships which had made the transit of the Canal from the Pacific to the Atlantic, paying the usual commercial tolls, met with accidents at the Atlantic terminal which necessitated their returning through the Canal to dry dock at Balboa; and under the law it was necessary to collect tolls for the extra transits. This was a burden to shipping and a handicap to the ready use of the facilities provided at the Canal.

## Notice to Mariners.—Obstruction to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., November 21, 1921.

CIRCULAR NO. 643-98.

The captain of the steamship *Manavi* reports by radio having passed at 9.45 a. m., on November 21, while in latitude 6° 40' north, longitude 78° 44' west, a large hardwood log about 20 feet long and 3 feet in diameter, almost submerged.

JAY J. MORROW,

Governor.

## Supplement No. 5 to Tariff No. 5.—Launches.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., November 4, 1921.

ITEM 6.—LAUNCHES.

(Effective November 10, 1921.)

### 2. For launch *Rodman*:

|                                                    |         |
|----------------------------------------------------|---------|
| First hour or fraction thereof.....                | \$10.00 |
| Each succeeding half hour or fraction thereof..... | 5.00    |

### 2-a. For launch *Patrol*:

|                                                    |      |
|----------------------------------------------------|------|
| First hour or fraction thereof.....                | 8.00 |
| Each succeeding half hour or fraction thereof..... | 4.00 |

JAY J. MORROW,

Governor, *The Panama Canal*.

President, *Panama Railroad Company*.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, November 19, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                       | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line. | Length. | Beam. | Salt water draft. | From—                            | For—  | Cargo.  |       | Panama Canal tonnage. |                      |        |        |       |
|-----------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-------|---------|-------|-------------------|----------------------------------|-------|---------|-------|-----------------------|----------------------|--------|--------|-------|
|                             | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |       |         |       |                   |                                  |       | Nature. | Tons. | Gross.                | Net.                 |        |        |       |
| Helenus.....                | 12               | 14    | 37             | 13    | 6                  | 15    | 13               | 14    | 00           | 13    | 14      | 53    | British.....      | Alfred Holt & Co.                | 455.0 | 56.0    | 28.6  | New York.....         | Shanghai.....        | 7,449  | 7,761  | 5,441 |
| Whakatane.....              | 12               | 22    | 11             | 13    | 8                  | 05    | 13               | 16    | 00           | 13    | 17      | 10    | British.....      | New Zealand Shipping Co.         | 420.0 | 54.0    | 24.6  | London.....           | Sydney.....          | 7,286  | 7,131  | 5,324 |
| Maunabo.....                | 12               | 22    | 58             | 13    | 9                  | 03    | 13               | 16    | 44           | 13    | 17      | 38    | British.....      | Shaw, Saville & Albion Co.       | 477.9 | 63.0    | 26.9  | Cardiff.....          | Timaru.....          | 5,000  | 11,053 | 7,895 |
| Salvador.....               | 9                | 15    | 22             | 13    | 9                  | 20    | 13               | 17    | 07           | 13    | 18      | 10    | British.....      | Pacific Steam Navigation Co.     | 215.0 | 33.0    | 14.2  | Cristobal.....        | Guayaquil.....       | 171    | 1,213  | 892   |
| Red Hook.....               | 13               | 11    | 45             | 13    | 11                 | 50    | 13               | 19    | 36           | 14    | 15      | 35    | American.....     | Erie Basin Towing & Hoisting Co. | 380.3 | 53.1    | 24.6  | Newport News.....     | San Diego.....       | 6,988  | 5,657  | 4,253 |
| Ansaldo VIII.....           | 11               | 19    | 40             | 13    | 11                 | 55    | 13               | 19    | 34           | 15    | 18      | 45    | Italian.....      | Soc. Naz. di Navigazione.        | 378.5 | 51.5    | 20.2  | Genoa.....            | Valparaiso.....      | 524    | 5,321  | 3,599 |
| Cherry Branch.....          | 14               | 9     | 15             | 14    | 9                  | 35    | 14               | 16    | 27           | 14    | 17      | 35    | British.....      | Nautibus Steamship Co.           | 400.0 | 52.0    | 18.6  | Glasgow.....          | Valparaiso.....      | 2,660  | 5,395  | 3,982 |
| Murf.....                   | 14               | 9     | 27             | 14    | 10                 | 08    | 14               | 17    | 09           | 14    | 22      | 20    | German.....       | Roland Line.                     | 267.0 | 41.0    | 14.0  | Hamburg.....          | Punta Arenas.....    | 490    | 2,188  | 1,361 |
| City of Cam-<br>bridge..... | 14               | 7     | 30             | 14    | 12                 | 25    | 14               | 19    | 05           | 14    | 20      | 14    | British.....      | Ellerman & Bucknell.             | 465.0 | 58.0    | 25.7  | New York.....         | Yokohama.....        | 7,957  | 9,183  | 6,954 |
| Balboa.....                 | 11               | 15    | 07             | 15    | 6                  | 25    | 15               | 13    | 21           | 15    | 14      | 25    | American.....     | Colombian Maritime Co.           | 190.0 | 29.0    | 10.6  | Cristobal.....        | Buenaventura.....    | 29     | 741    | 350   |
| Pacific.....                | 14               | 20    | 20             | 15    | 10                 | 15    | 15               | 17    | 32           | 15    | 18      | 45    | Danish.....       | Overseas Trading Co.             | 367.0 | 50.7    | 25.7  | Barry.....            | Honolulu.....        | 5,943  | 5,780  | 4,507 |
| Patricia.....               | 15               | 4     | 15             | 15    | 11                 | 20    | 15               | 18    | 00           | 17    | 11      | 56    | American.....     | James Shewan.....                | 193.1 | 32.1    | 13.0  | New York.....         | Los Angeles.....     | 874    | 483    | 483   |
| Crafter Hall.....           | 15               | 12    | 35             | 15    | 12                 | 55    | 15               | 19    | 58           | 15    | 21      | 25    | American.....     | United States Steel Products Co. | 330.0 | 50.0    | 24.0  | New Orleans.....      | Shanghai.....        | 5,632  | 4,955  | 3,523 |
| Artigas.....                | 15               | 23    | 29             | 16    | 8                  | 50    | 16               | 15    | 45           | 16    | 16      | 55    | American.....     | N. Atl. & Western Co. (S. B.)    | 390.0 | 54.0    | 18.0  | Portland, Me.....     | Seattle.....         | 2,506  | 6,161  | 4,427 |
| Lewis Lucken-<br>bach.....  | 16               | 15    | 58             | 17    | 6                  | 31    | 17               | 13    | 55           | 17    | 15      | 00    | American.....     | Luckenbach Line.                 | 496.0 | 68.2    | 23.0  | New York.....         | San Francisco.....   | 6,000  | 11,487 | 8,732 |
| Jamaica.....                | 14               | 16    | 26             | 17    | 7                  | 00    | 17               | 14    | 40           | 17    | 19      | 45    | British.....      | Pacific Steam Navigation Co.     | 220.0 | 34.0    | 13.1  | Pto. Colombia.....    | Tumaco.....          | 5401   | 1,187  | 622   |
| La Habra.....               | 16               | 20    | 24             | 17    | 8                  | 45    | 17               | 16    | 05           | 18    | 6       | 43    | Norwegian.....    | W. Wilhelmsen.....               | 424.8 | 50.7    | 25.6  | Tampico.....          | Antofagasta.....     | 9,000  | 7,053  | 5,051 |
| Trevelyan.....              | 17               | 6     | 17             | 17    | 9                  | 14    | 17               | 16    | 52           | 17    | 17      | 55    | British.....      | Hain Steamship Co.               | 397.0 | 54.0    | 27.0  | New Orleans.....      | General and oil..... | 6,300  | 6,102  | 4,331 |
| Virginian.....              | 17               | 10    | 55             | 17    | 11                 | 15    | 17               | 17    | 52           | 17    | 19      | 05    | American.....     | American-Hawaiian Line.          | 492.0 | 58.2    | 20.0  | New York.....         | Seattle.....         | 2,000  | 10,468 | 7,857 |
| Colombia.....               | 16               | 18    | 09             | 18    | 6                  | 05    | 18               | 12    | 44           | 18    | 19      | 20    | American.....     | Pacific Mail Steamship Co.       | 380.0 | 48.7    | 21.7  | Baltimore.....        | San Francisco.....   | 2,033  | 6,015  | 4,281 |
| Twickenham.....             | 18               | 4     | 05             | 18    | 7                  | 25    | 18               | 14    | 38           | 18    | 16      | 08    | British.....      | Watts, Watts & Co.               | 390.0 | 52.0    | 18.0  | New York.....         | Makatoe.....         | 5,432  | 3,706  | 2,861 |
| Verona.....                 | 18               | 5     | 14             | 18    | 8                  | 17    | 18               | 15    | 52           | 19    | 6       | 55    | British.....      | Cunard Line.                     | 400.4 | 52.4    | 23.0  | New York.....         | Sydney.....          | 3,331  | 5,819  | 4,037 |
| Peoples.....                | 17               | 20    | 22             | 18    | 9                  | 20    | 18               | 15    | 59           | 19    | 9       | 48    | British.....      | Sutherland Steamship Co.         | 400.0 | 52.4    | 18.0  | Newcastle.....        | Humboldt Bay.....    | 5,729  | 4,123  | 3,173 |
| Eclipse.....                | 18               | 20    | 20             | 19    | 6                  | 21    | 19               | 14    | 16           | 20    | 7       | 35    | American.....     | Barber Lines (S. B.)             | 440.0 | 56.0    | 27.6  | New York.....         | Far East.....        | 10,118 | 8,293  | 6,080 |
| Karina Lucken-<br>bach..... | 19               | 5     | 57             | 19    | 7                  | 15    | 19               | 15    | 01           | 19    | 16      | 30    | American.....     | Luckenbach Line.                 | 446.0 | 56.0    | 20.0  | New York.....         | San Francisco.....   | 1,340  | 8,508  | 6,179 |
| West Catacaes.....          | 19               | 5     | 38             | 19    | 8                  | 57    | 19               | 16    | 30           | 19    | 21      | 12    | American.....     | Elder Steel Steamship Co.        | 410.5 | 54.3    | 25.0  | Norfolk.....          | Bremerton.....       | 7,819  | 6,567  | 4,917 |
| Delft.....                  | 18               | 10    | 50             | 19    | 9                  | 47    | 19               | 16    | 35           | 20    | 6       | 45    | Dutch.....        | Royal Netherlands W. I. Mail.    | 376.0 | 50.0    | 14.1  | Hamburg.....          | Talcahuano.....      | 1,329  | 5,862  | 4,393 |
| Newport.....                | 11               | 19    | 55             | 19    | 10                 | 08    | 19               | 17    | 20           | 19    | 21      | 40    | American.....     | Pacific Mail Steamship Co.       | 326.0 | 38.0    | 19.1  | Cristobal.....        | San Francisco.....   | 2,052  | 3,173  | 2,163 |
| San Joaquin.....            | 19               | 10    | 55             | 19    | 11                 | 10    | 19               | 18    | 14           | 19    | 19      | 16    | Norwegian.....    | W. Wilhelmsen.....               | 425.7 | 57.1    | 26.7  | Puerto Lobos.....     | San Francisco.....   | 9,300  | 7,059  | 5,943 |

\* Yacht.



THROUGH THE CANAL--PACIFIC TO ATLANTIC.

|    |                 |       |    |       |       |    |       |           |                                  |       |      |      |               |               |                     |        |       |
|----|-----------------|-------|----|-------|-------|----|-------|-----------|----------------------------------|-------|------|------|---------------|---------------|---------------------|--------|-------|
| 12 | Munaires.       | 12 25 | 13 | 7 40  | 13 50 | 13 | 17 40 | American  | Munson Steamship Line.           | 370 0 | 53 1 | 24 7 | Westport Oreg | New York.     | Lumber              | 5 460  | 5 577 |
| 13 | Hilversum.      | 9 00  | 13 | 9 25  | 13 45 | 13 | 17 32 | Dutch.    | Finke & Co.                      | 359 9 | 48 3 | 27 0 | San Francisco | United King   | Barley              | 5 540  | 4 222 |
| 13 | Arthure.        | 9 35  | 13 | 11 35 | 13 31 | 13 | 20 44 | American  | Standard Oil Co.                 | 449 5 | 59 6 | 23 0 | Talara        | New York      | Crude naphtha       | 9 178  | 6 457 |
| 13 | Cape Roman      | 12 15 | 13 | 13 30 | 13 27 | 13 | 21 00 | American  | Arl. Gulf & Pacific Steamship Co | 376 4 | 52 3 | 24 0 | Seattle       | New York      | Lumber, general     | 5 545  | 3 568 |
| 13 | Venezuela.      | 0 06  | 14 | 6 45  | 14 30 | 15 | 14 08 | American  | Pacific Mail Steamship Co.       | 380 0 | 42 3 | 24 0 | San Francisco | Baltimore.    | Lumber, general (3) | 3 088  | 6 032 |
| 14 | Freeport Sul-   | 1 30  | 14 | 7 40  | 14 15 | 14 | 16 28 | American  | Freeport Sulphur Transp. Co.     | 355 5 | 52 5 | 21 0 | Tacoma        | New York      | Lumber              | 5 400  | 4 940 |
| 14 | plur No. 5.     | 6 00  | 14 | 8 48  | 14 58 | 14 | 22 43 | American  | W. L. Grace & Co.                | 360 3 | 51 7 | 23 1 | Talcahuano.   | New York      | General             | 1 456  | 9 457 |
| 14 | Santa Elisa     | 8 00  | 14 | 9 25  | 14 17 | 14 | 17 28 | Greek     | N. Lykardatos                    | 352 2 | 50 8 | 24 0 | Portland      | Hampton Roads | Wheat               | 5 281  | 4 418 |
| 14 | Fortis          | 8 15  | 14 | 6 32  | 14 15 | 14 | 17 28 | British   | Temple & H. H. Matthews          | 440 0 | 56 2 | 23 6 | Vancouver     | Glasgow       | Fruit and fish      | 8 400  | 4 759 |
| 14 | Moller          | 4 35  | 15 | 9 25  | 15 25 | 16 | 17 01 | British   | China Mutual Steam Nav. Co.      | 302 3 | 59 4 | 25 0 | Vancouver     | Liverpool     | General (4)         | 5 558  | 3 211 |
| 15 | Asyanax.        | 4 00  | 15 | 7 51  | 15 30 | 15 | 18 45 | British   | Pacific Steam Navigation Co.     | 216 0 | 55 1 | 13 0 | Guayaquil     | Cristobal     | General             | 3 373  | 3 884 |
| 15 | Manavi          | 7 30  | 15 | 9 04  | 15 16 | 16 | 6 10  | British   | Pacific Steamship Co. (S. B.)    | 440 0 | 56 0 | 28 0 | Seattle       | Marselles     | Wheat               | 10 483 | 8 019 |
| 15 | Hanley          | 12 30 | 15 | 13 45 | 15 38 | 16 | 6 20  | American  | American-Italian Line            | 472 3 | 51 2 | 26 0 | Seattle       | Boston        | Wheat (3)           | 7 180  | 9 258 |
| 16 | Maxen           | 7 00  | 16 | 14 15 | 16 08 | 16 | 15 08 | American  | American-Italian Line            | 472 3 | 51 2 | 26 0 | Seattle       | Boston        | Wheat (3)           | 7 180  | 9 258 |
| 16 | Kikuku Maru.    | 16 12 | 16 | 14 08 | 16 21 | 16 | 21 01 | Japanese. | Kobusuki Kaisha Kaw Zuensho      | 335 0 | 51 0 | 37 0 | Portland      | United King   | Wheat in sacks      | 7 196  | 5 919 |
| 16 | Armo Mendi.     | 12 30 | 16 | 15 16 | 16 23 | 17 | 8 35  | Spanish.  | Sota & Aznar                     | 400 0 | 53 6 | 24 6 | San Francisco | Hampton Roads | Barley              | 7 675  | 6 044 |
| 17 | Eastern Prince. | 7 15  | 17 | 9 22  | 17 16 | 17 | 18 00 | British   | Prince Line, Ltd                 | 448 5 | 58 5 | 26 0 | Vancouver     | Harro         | General             | 5 440  | 8 911 |
| 17 | Malwa Maru.     | 17 16 | 18 | 6 32  | 18 15 | 17 | 15 27 | Japanese. | Taisio Kaibun, Ltd               | 440 0 | 58 0 | 28 0 | Vancouver     | Cruslow.      | Wheat in sacks.     | 8 999  | 8 299 |
| 18 | Palena          | 7 30  | 18 | 8 22  | 18 15 | 19 | 1     | Chilean   | Chilean Line                     | 350 0 | 41 2 | 20 0 | Vapalao       | Cristobal     | General             | 121    | 3 666 |
| 18 | Orta.           | 3 20  | 18 | 8 52  | 18 36 | 19 | 1     | British   | Pacific Steam Navigation Co.     | 355 4 | 58 2 | 27 2 | Vapalao       | Liverpool     | General (6)         | 5 135  | 9 936 |
| 18 | Rolarian.       | 10 50 | 18 | 11 35 | 18 48 | 18 | 19 30 | American  | Swayne & Hoyt (S. B.)            | 380 3 | 51 0 | 0    | Seattle       | Buenos Aires. | General             | 2 408  | 6 174 |
| 18 | Spectator.      | 16 30 | 19 | 6 35  | 19 14 | 19 | 13 45 | British   | T. & J. Harrison                 | 384 0 | 50 0 | 19 0 | Vancouver     | United King   | General             | 2 679  | 3 697 |
| 18 | North American  | 17 35 | 19 | 7 54  | 19 15 | 19 | 16 36 | British   | North American Steamship Co.     | 236 0 | 47 6 | 20 0 | San Antonio   | New York      | General (7)         | 2 940  | 4 571 |
| 19 | Edgar F.        | 5 25  | 19 | 8 24  | 19 15 | 19 | 16 30 | American  | Luckenbach Line.                 | 425 0 | 57 3 | 27 6 | Portland.     | New York      | General             | 7 597  | 8 568 |
| 19 | Luckenbach.     | 12 30 | 19 | 13 35 | 19 21 | 19 | 17 45 | British   | F. & W. Rutson                   | 400 0 | 52 0 | 25 0 | Punta Arenas. | Liverpool     | General             | 6 729  | 5 618 |
| 19 | Caple Branch.   |       |    |       |       |    |       |           |                                  |       |      |      |               |               |                     |        | 4 116 |

For orders.

<sup>1</sup> General and canned goods.

<sup>2</sup> Wheat, barley, flour, and general.

<sup>3</sup> Fruit, salmon, and lumber.

<sup>4</sup> Cotton, metals, grain, sugar, borax, hides, wool, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |                        |                                 |                             | *DEPARTURES. |                        |                                  |                         |
|------------|------------------------|---------------------------------|-----------------------------|--------------|------------------------|----------------------------------|-------------------------|
| Date.      | Vessel.                | Line.                           | From—                       | Date.        | Vessel.                | Line.                            | For—                    |
| Nov. 13    | Metapan.               | United Fruit Co.                | New Orleans via Habana.     | Nov. 13      | Metapan                | United Fruit Co.                 | Bocas del Toro.         |
| Nov. 13    | Achilles.              | Panama Railroad Steamship Line. | Norfolk.                    | Nov. 13      | Leon XIII              | Spanish Line.                    | Puerto Colombia.        |
| Nov. 14    | Oranje Nassau.         | Royal Netherlands W. I. Mail.   | Amsterdam via waypoints.    | Nov. 13      | Columbia.              | N. O. & S. A. Steamship Line.    | New Orleans.            |
| Nov. 14    | Heredia                | United Fruit Co.                | New Orleans via Port Limon. | Nov. 14      | Valerian.              | British Government.              | Port Limon.             |
|            |                        |                                 |                             | Nov. 15      | Oranje Nassau.         | Royal Netherlands W. I. Mail.    | Port Limon.             |
| Nov. 15    | Calamares              | United Fruit Co.                | New York via Habana.        | Nov. 15      | Redwing <sup>1</sup> . | United States Navy.              | High seas.              |
| Nov. 15    | Redwing <sup>2</sup> . | United States Navy.             | Norfolk via waypoints.      | Nov. 16      | Caribbean.             | Panama Railroad Cattle Industry. | Cartagena.              |
| Nov. 16    | Metapan.               | United Fruit Co.                | Bocas del Toro.             | Nov. 16      | Metapan                | United Fruit Co.                 | New Orleans.            |
| Nov. 16    | Oranau.                | United Fruit Co.                | New York via Kingston.      | Nov. 16      | Calamares.             | United Fruit Co.                 | New York via Port Limon |
| Nov. 16    | Sorata.                | Leyland Line.                   | Liverpool.                  |              |                        |                                  | and Habana.             |
|            |                        | Pacific Steam Navigation Co.    | Liverpool via waypoints.    | Nov. 17      | Turrialba.             | United Fruit Co.                 | New York via Kingston.  |
|            |                        |                                 |                             |              |                        |                                  |                         |

<sup>1</sup> Tug.

<sup>2</sup> Tug towing bark No. 32.

<sup>3</sup> Gunboat.

(Continued on page 214, column 2.)

### Grounding of a Whale at Cristobal.

A whale which swam in from the Caribbean through the gap between the breakwaters protecting the Atlantic entrance to the Canal grounded in shallow waters to the east of the Canal prism, about a quarter of a mile south of the Cristobal coaling plant, in the evening of November 17. It was unable to extricate itself and remained there, with the top of its head and most of its back showing above water.

A group of Canal employees undertook to salvage the animal. On the morning of November 19 they killed it by machine gun fire directed from a launch and towed it with a tug to pier 6, with the idea of lifting it onto flat cars and hauling it to the abattoir at Mount Hope for rendering. A 75-ton locomotive crane was unable to lift the whale from the water, and after continued efforts the salvage was abandoned, as the animal was not a sperm whale and was decomposing. In the morning of November 21 the tug *Porto Bello* towed the whale into deep water about 12 miles beyond the breakwaters and the carcass was bombed by a Navy aeroplane. Two 160-pound bombs were dropped from a height of 1,000 feet. The first struck the tail and tore a large hole in the carcass, and the second fell opposite the head about 15 feet to one side.

The monster aroused a great deal of interest among residents of the Isthmus. Hundreds of people went out in launches and cayucos to see it while alive, and other hundreds went to see it alongside pier 6. Exact measurements were not taken, but the whale was estimated to be approximately 120 feet in length and to weigh 125 tons. It was a female, of the kind known as flat humpback and is said by men of whaling experience to have been unusually large.

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### Supplement No. 6 to Tariff No. 5.—Pilotage.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., November 15, 1921.

#### Item 3.—PILOTAGE.

(Effective November 20, 1921.)

8. Pilotage will not be charged against a vessel stopping in the Canal prism solely for the purpose of embarking or disembarking passengers traveling only from one terminal of the Canal to the other.

JAY J. MORROW,  
Governor, The Panama Canal.  
President, Panama Railroad Company.

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### Notice to Mariners.—Obstruction to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., November 15, 1921.

CIRCULAR NO. 643-97.

The master of the steamship *Cedar Branch* reports by radio having passed at 1 a. m., on November 13, while in latitude 9° 51' north, longitude 79° 53' west, 28 miles north and 5 miles east true from the Atlantic breakwater, an obstruction to navigation about 120 feet long and 3 feet above water. Not sufficient light to determine nature. Apparently derelict, with one end raised, probably poop deck.

JAY J. MORROW,  
Governor.

**Eastbound Cargo Through the Panama Canal.**

During the month of October, 1921, the cargo passing through the Panama Canal from Pacific to Atlantic totaled 611,338 tons, or very little less than the record of 619,895 tons established in January, 1921. But while the totals for the 2 months are approximately the same, there is a notable difference in the tonnage of separate commodities and in the relative importance of trade areas. In January the west coast of South America contributed more tonnage than any other region, and Chilean nitrate was the leading commodity. In October the west coast of the United States was far more important, and the leading commodity was wheat. Australia contributed less to the total in October, and the Far East more. These differences are not entirely or even mainly due to seasonal fluctuations, for in October of last year the various trade areas contributed approximately the same percentage to the total traffic as in January, 1921. The following table shows how the trade has shifted:

CARGO FROM PACIFIC TO ATLANTIC.

| Origin.                          | October,<br>1920. | January,<br>1921. | October,<br>1921. |
|----------------------------------|-------------------|-------------------|-------------------|
| West coast of South America..... | 208,547           | 260,211           | 120,611           |
| West coast of United States..... | 203,608           | 207,303           | 372,518           |
| Australasia.....                 | 45,565            | 110,905           | 36,605            |
| Far East.....                    | 29,315            | 21,745            | 55,373            |
| Other.....                       | 15,318            | 19,731            | 26,231            |
| Totals.....                      | 502,353           | 619,895           | 611,338           |

Nitrate shipments in January totaled 195,885 tons. The October shipments, although heavier than in any recent month, amounted to only 54,256 tons. On the other hand, wheat from the west coast of the United States totaled 128,375 tons in October, as compared with 59,606 tons in January. The October shipments of wheat, canned fish (32,761 tons), and phosphates (14,057 tons) were heavier than in any previous month of the year. The shipments of lumber (56,606 tons) and canned fruit (25,547 tons) were heavier than in any previous month of the year save one. The tonnage of barley (67,092 tons) was less than in several recent months, and there were normal shipments of sugar (20,261 tons) and copper (10,060 tons). Beans, peas, and lentils contributed 20,547 tons.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending November 19, 1921.**

| Name of vessel.      | Line or charterer.                 | Arrived.     | Departed.    | Cargo—       |              |
|----------------------|------------------------------------|--------------|--------------|--------------|--------------|
|                      |                                    |              |              | Discharged   | Laded.       |
|                      |                                    |              |              | <i>Tons.</i> | <i>Tons.</i> |
| Salvador.....        | Pacific Steam Navigation Co.....   | November 13. | November 13. |              | 3            |
| Venezuela.....       | Pacific Mail Steamship Co.....     | November 13. | November 14. | 167          |              |
| Baja California..... | A. O. Lindvig.....                 | November 13. | November 14. | 54           |              |
| Laura C. Hall.....   | Pacific Metals Transportation Co.. | November 14. | November 17. |              | 26           |
| Manavi.....          | Pacific Steam Navigation Co.....   | November 15. | November 15. | 1            |              |
| Jamaica.....         | Pacific Steam Navigation Co.....   | November 17. | November 17. |              | 28           |
| La Habra.....        | W. Wilhelmsen.....                 | November 17. | November 17. | 1,286        |              |
| Colombia.....        | Pacific Mail Steamship Co.....     | November 18. | November 18. |              | 1            |
| Newport.....         | Pacific Mail Steamship Co.....     | November 19. | November 19. |              | 3            |

**Passage of the Cruiser "Raleigh."**

The light cruiser *Raleigh*, flagship of the North America and West Indies Squadron of the British Navy, with Vice Admiral Packenham



aboard, arrived at Cristobal in the morning of November 23 from the high seas and, after taking oil, made the transit of the Canal. She is bound for Vancouver, via San Diego.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending November 19, 1921.**

| Name of vessel. | Line or charterer.               | Arrived.     | Departed.    | Cargo—     |        |
|-----------------|----------------------------------|--------------|--------------|------------|--------|
|                 |                                  |              |              | Discharged | Laded. |
|                 |                                  |              |              | Tons.      | Tons.  |
| Leon XIII.      | Spanish Line                     |              | November 13. |            | 298    |
| Jan Van Nassau. | Royal Netherlands W. I. Mail.    |              | November 14. |            | 152½   |
| Santa Elisa.    | Grace Line                       | November 14. | November 14. | (1)        | 10     |
| Oranje Nassau.  | Royal Netherlands W. I. Mail.    | November 14. | November 15. | 21         | (1)    |
| Venezuela.      | Pacific Mail Steamship Co.       | November 14. | November 15. | 119        | 348    |
| Balboa.         | Colombian Maritime Co.           |              | November 15. |            | 39     |
| Caribbean.      | Panama Railroad Cattle Industry. |              | November 15. |            | 76     |
| Colon.          | Panama Railroad Steamship Line.  |              | November 16. |            | 2,953  |
| Jamaica.        | Pacific Steam Navigation Co.     | November 14. | November 17. | 47         | 180    |
| Heredia.        | United Fruit Co.                 | November 14. | November 17. | 698        | 33     |
| Achilles.       | Panama Railroad Steamship Line.  | November 14. | November 19. | 12,032     | (3)    |
| Calamares.      | United Fruit Co.                 | November 15. | November 16. | 462        | 226    |
| Manavi.         | Pacific Steam Navigation Co.     | November 15. |              | 373        |        |
| Metapan.        | United Fruit Co.                 | November 16. | November 16. | 1          | 5      |
| Tivives.        | United Fruit Co.                 | November 16. | November 17. | 115        | 167    |
| Colombia.       | Pacific Mail Steamship Co.       | November 16. | November 18. | 669        | 174    |
| Oranian.        | Leyland Line                     | November 16. |              | 450        |        |
| Sorata.         | Pacific Steam Navigation Co.     | November 16. | November 18. | 89         | 320    |
| Turrialba.      | United Fruit Co.                 | November 17. | November 17. | 133        | 7      |
| Palena.         | Chilean Line                     | November 18. |              | 121½       |        |
| Oranje Nassau.  | Royal Netherlands W. I. Mail.    | November 18. | November 19. | 5          | 9      |
| Newport.        | Pacific Mail Steamship Co.       |              | November 19. |            | 2,052  |
| Delft.          | Royal Netherlands W. I. Mail.    | November 18. | November 19. | 204        | (1)    |
| San Benito.     | United Fruit Co.                 | November 19. | November 19. | 10         | 73     |

<sup>1</sup> No cargo discharged.

<sup>2</sup> Pounds.

<sup>3</sup> No cargo laded.

**Exclusion of Undesirable Persons.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., November 17, 1921.

*Notice to steamship agents and all others concerned*—Under the authority of the Executive Order of February 6, 1917, the Governor of The Panama Canal is empowered to exclude from the Canal Zone certain classes of persons including "persons of notoriously bad character, persons whose presence would be a menace to the public health or welfare of the Canal Zone, or who would be liable to become a public charge, or who may be suffering from a loathsome or dangerous contagious disease." In the exercise of this and the other powers vested in him by the above-mentioned Executive Order, the Governor of The Panama Canal has always desired that the legitimate business of the various transportation agencies suffer the minimum interference and hindrance.

The recent activities of certain interests in attempting to land women for immoral purposes, possibly in anticipation of the arrival of the fleet makes it imperative for the protection of the morals, health and welfare of the Canal Zone that there be a stringent application of the Executive Order for the Exclusion of Undesirable Persons. This will be done. Transportation agencies may be spared much annoyance and expense by cautioning their agents and the agents of their companies elsewhere, to observe the greatest caution lest transportation be issued to persons falling within an excludable class and therefore liable to deportation.

JAY J. MORROW,  
Governor.

**Ships at Canal Repair Shops.**

The following vessels were at the Balboa shops for repairs during the week ended November 19:

Steamships *Ansaldo San Giorgio VIII*, manufacture 3 piston rods for oil pump; manufacture 6 nuts for piston rod with cotter pin holes; drill through them; manufacture 6 liner washers for oil pump rod; manufacture new oil pipe, 6 feet long; repair 1 oil cup; manufacture 12 ¾" csk. screws for crosshead slippers; *Murla*, manufacture 2 quadrant springs as per sketch, 21½" over all, 6½" outside diameter, 4½"



inside diameter, 1" square steel; *Peebles*, renew crosshead pin, fit new brass to crosshead pin, refit crank pin brass, remove old and install new piston rod on blower engine; renew crosshead pin, fit new brass to crosshead pin, refit crank pin brass to circulating engine; dredge *Cascadas*, remove broken stern spud and replace with a good order spud; barges *No. 1*, dock, stage, and clean; scale bottom up to light load line; paint bottom up to light load line; drain tanks and redrive bad rivets; *No. 148*, dock, stage, and clean; scale bottom up to light load line; paint bottom up to light load line; drain tanks and redrive bad rivets; compressor barge *No. 27*, dock, stage, and clean; scale bottom up to light load line; paint bottom up to light load line; drain tanks and redrive bad rivets.

## PREVIOUSLY REPORTED.

Launch *Wilson B. Gaither*, scrape and clean bottom; perform general hull repairs; steamship *Panama*, reboiling and general repairs to machinery and hull; launch *Pacific*, general repairs to hull; crane boat *La Valley*, perform heavy hull repairs; barges *No. 136*, dock, stage, and clean; scale and paint bottom to light load line; perform heavy hull and strongback repairs; *No. 133*, dock, stage, and clean; scale and paint bottom to light load line; perform heavy hull and strongback repairs.

The following vessels were at the Cristobal shops for repairs during the week ended November 22:

Steamships *Achilles*, paint boot topping; ease doors in coal bunkers; remetal and machine H. P. crank brasses, crosshead brasses, and L. P. guide shoes, etc.; *Heredia*, repair ice machine, manufacture 2 neck bushings, 1 valve, and 1 bushing; barge *No. 50*, clean and paint hull; steamships *Steel Worker*, repair telemotor, etc.; *Delft*, test and repair coils for CO 2 machine; repair 2 pipes; *Oranje Nassau*, make 3 rings as directed; *Palena*, electric weld boiler; *Allianca*, furnish 10 men to clean boilers.

## PREVIOUSLY REPORTED.

U. S. S. *O-12*, renew all rivets in engine foundation; overhaul all sea valves; overhaul steering and diving gear, etc.; launch *Gloriana*, repair hull and keel; renew awnings; overhaul engine, etc.; *Ampat*, manufacture, fit, and install new rudder; install asbestos lining on both boilers; renew tubes in boilers, etc.; supply boat *No. 1*, weld and reinstall cylinder on main engine, *Colon*, roll tubes in after port boiler; repair steam line to whistle; manufacture hatch battens, etc.

### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective November 1, 1921:

| Commodities.                                                   | Unit.          | Price.  |
|----------------------------------------------------------------|----------------|---------|
| Brass, bar, average.....                                       | Lb.            | \$0.375 |
| Brass, sheet, average.....                                     | Lb.            | .41     |
| Bronze, Tobin, average.....                                    | Lb.            | .31     |
| Gasoline, motor grade.....                                     | Gal.           | .40     |
| Metal, yellow.....                                             | Lb.            | .34     |
| Oakum, Navy, spun.....                                         | Lb.            | .175    |
| Oakum, Navy, unspun.....                                       | Lb.            | .175    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....     | Pbl of 42 gals | 3.50    |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge..... | Bbl of 42 gals | 1.70    |
| Oil, ammonia, cylinder.....                                    | Gal.           | .51     |
| Oil, burning.....                                              | Gal.           | 1.25    |
| Oil, engine, gas, medium, in tins.....                         | Gal.           | .675    |
| Oil, engine, gas, medium, in barrels.....                      | Gal.           | .49     |
| Oil, engine, gas, extra heavy, in barrels.....                 | Gal.           | 1.04    |
| Oil, engine, gas, extra heavy, in cases.....                   | Gal.           | 1.125   |
| Oil, engine, gas, in drums, medium.....                        | Gal.           | .65     |
| Oil, kerosene, in drums.....                                   | Gal.           | .20     |
| Oil, marine engine.....                                        | Gal.           | 1.04    |
| Oil, marine engine.....                                        | Gal.           | .99     |
| Paint, lead, white, dry.....                                   | Lb.            | .14     |
| Paint, lead, white, in oil.....                                | Lb.            | .16     |
| Paint, zinc, white, dry.....                                   | Lb.            | .20     |
| Paint, zinc, white, in oil.....                                | Lb.            | .20     |
| Grease, gear, black.....                                       | Lb.            | .10     |
| Grease, yellow, cup, No. 3.....                                | Lb.            | .125    |
| Grease, yellow, cup, No. 5.....                                | Lb.            | .10     |
| Soda, ash.....                                                 | Lb.            | .04     |
| Waste, cotton, colored.....                                    | Lb.            | .175    |
| Waste, cotton, white.....                                      | Lb.            | .20     |

## Official Circular.

## Prices of Scrap.

THE PANAMA CANAL,  
SUPPLY DEPARTMENT,

BALBOA HEIGHTS, C. Z., November 10, 1921.

## HEADS OF DEPARTMENTS AND DIVISIONS:

Effective November 15, 1921, the following prices will be allowed by the Supply Department for scrap turned in by the various departments and divisions of The Panama Canal. The selling prices to departments and divisions, employees, and to individuals and companies are also indicated:

| Kind of scrap.                            | Credit to be allowed divisions. | ISSUE AND SALE PRICES.              |                            |
|-------------------------------------------|---------------------------------|-------------------------------------|----------------------------|
|                                           |                                 | To departments of The Panama Canal. | To employees and I. and C. |
|                                           | Short ton.                      | Short ton.                          | Short ton.                 |
| Cast iron, including car wheels.....      | \$6.00                          | \$7.00                              | \$30.00                    |
| Miscellaneous wrought iron and steel..... | 3.00                            | 4.00                                | 30.00                      |
| Rail, scrap, grade No. 4.....             | 3.00                            | 4.00                                | 30.00                      |
| Rail, relaying, grade No. 2.....          | 20.00                           | 21.00                               | (*)                        |
| Rail, relaying, grade No. 3.....          | 11.00                           | 12.00                               | (*)                        |
| Aluminum.....                             | \$8.00                          | \$9.00                              | \$25.00                    |
| Babbitt.....                              | 2.00                            | 3.00                                | 10.00                      |
| Bags and burlap.....                      | .50                             | 1.00                                |                            |
| Brass, mixed.....                         | 4.00                            | 5.00                                | 10.00                      |
| Brass borings and turnings.....           | 4.00                            | 5.00                                | 10.00                      |
| Bronze screenings.....                    | 4.00                            | 5.00                                | 15.00                      |
| Canvas.....                               | .50                             | 1.00                                |                            |
| Copper, mixed.....                        | 8.00                            | 9.00                                | 20.00                      |
| Cork.....                                 | 1.00                            | 2.00                                | 10.00                      |
| Hose.....                                 | .50                             | 1.00                                | 6.00                       |
| Lead.....                                 | 1.00                            | 2.00                                | 5.00                       |
| Leather.....                              | .50                             | 1.00                                | 3.00                       |
| Pewter.....                               | 10.00                           | 11.00                               | 50.00                      |
| Rags.....                                 | .50                             | 1.00                                | 5.00                       |
| Rope.....                                 | .50                             | 1.00                                | 5.00                       |
| Rubber.....                               | .50                             | 1.00                                | 6.00                       |
| Tool steel.....                           | 5.00                            | 6.00                                | 25.00                      |
| Zinc.....                                 | 1.00                            | 2.00                                | 5.00                       |

\* None to be sold.

R. K. MORRIS,  
Chief Quartermaster.

## Current Net Prices on Coal, Fuel Oil, and Diesel Oil.

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or less than 50 tons, the price is \$15 per ton at Cristobal, \$18 at Balboa.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

## Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 209.

## PORT OF CRISTOBAL—continued.

| *ARRIVALS.   |                      |                                   | *DEPARTURES.    |                      |                                         |
|--------------|----------------------|-----------------------------------|-----------------|----------------------|-----------------------------------------|
| Date.        | Vessel.              | Line.                             | Date.           | Vessel.              | Line.                                   |
| Nov. 17..... | Turrialba.....       | United Fruit Co.                  | Nov. 17.....    | United Fruit Co.     | New York via Colombia and Kingston.     |
| Nov. 18..... | Orange Nassau.....   | Royal Netherlands W. I. Mail      | Nov. 17.....    | United Fruit Co.     | New York via Bocas del Toro and Habana. |
| Nov. 19..... | San Benito.....      | United Fruit Co.                  | Nov. 17.....    | Colon.....           | New York via Haiti.                     |
|              |                      |                                   | Nov. 19.....    | Achilles.....        | Panama Railroad Steamship Line.         |
|              |                      |                                   | Nov. 19.....    | Orange Nassau.....   | Panama Railroad Steamship Line.         |
|              |                      |                                   | Nov. 19.....    | San Benito.....      | Royal Netherlands W. I. Mail            |
|              |                      |                                   | Nov. 19.....    |                      | Puerto Colombia.                        |
|              |                      |                                   |                 |                      | Boston, Mass.                           |
| " Collier.   |                      |                                   | PORT OF BALBOA. |                      |                                         |
| Nov. 13..... | Baja California..... | A. O. Lindvig.....                | Nov. 14.....    | Baja California..... | Buenaventura.                           |
| Nov. 16..... | Derblay.....         | General Steamship Corp. (S. B.).. | Nov. 16.....    | Derblay.....         | General Steamship Corp. (S. B.)..       |

\* Other than ships passing through the Canal.

# THE PANAMA CANAL RECORD

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PUBLISHED WEEKLY.

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Volume XV. Balboa Heights, C. Z., November 30, 1921. No. 16.

## CANAL WORK IN OCTOBER.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of October, 1921:

BALBOA HEIGHTS, C. Z., November 19, 1921.

*The Honorable, the Secretary of War,  
Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of October, 1921.

### CANAL TRAFFIC.

The total number of vessels and craft of all kinds transiting the Canal, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                                 | October,<br>1921. | September,<br>1921. | October,<br>1920. |
|-------------------------------------------------|-------------------|---------------------|-------------------|
| Commercial vessels.....                         | 255               | 221                 | 238               |
| Noncommercial vessels.....                      | 20                | 37                  | 26                |
| Launches, etc. (under 10 tons measurement)..... | 6                 | 2                   | 7                 |
| Total vessels and craft through Canal.....      | 281               | 260                 | 271               |

### COMMERCIAL TRAFFIC.<sup>1</sup>

#### Tolls.

Under the present dual method of assessing tolls, the revenue from this source was \$1,047,935.62. With the exception of the months of January and March of the present year, this is the greatest amount collected in tolls since the opening of the Canal. Had the net tonnage as determined by the Panama Canal rules of measurement been used in all cases as a basis for collecting tolls, the above amount would have been increased by \$192,154.54. This additional revenue would have been contributed, by nationality of ships, as follows:

|                    | Atlantic<br>to Pacific. | Pacific<br>to Atlantic. | Total.      |
|--------------------|-------------------------|-------------------------|-------------|
| British.....       | \$32,064.96             | \$38,001.35             | \$70,066.31 |
| Chilean.....       | 3,506.20                | 4,006.15                | 7,512.35    |
| Danish.....        | 1,306.10                | 4,210.15                | 5,516.25    |
| Dutch.....         | 1,664.65                | 3,217.00                | 4,881.65    |
| French.....        | 644.65                  | 368.07                  | 1,012.72    |
| Japanese.....      | 8,056.27                | 2,937.65                | 10,993.92   |
| Norwegian.....     | 2,661.10                | 673.55                  | 3,334.65    |
| Peruvian.....      | 4,666.65                | 5,068.65                | 9,735.30    |
| Spanish.....       |                         | 335.65                  | 335.65      |
| Swedish.....       | 2,423.35                | 2,096.80                | 4,520.15    |
| United States..... | 38,842.58               | 35,403.01               | 74,245.59   |
| Totals.....        | 95,836.51               | 96,318.03               | 192,154.54  |

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant ships chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Ships not paying tolls are classed as "noncommercial."

The additional tolls paid by American vessels would have been distributed among the following channels of trade:

|                                      | Atlantic<br>to Pacific. | Pacific<br>to Atlantic. | Total.      |
|--------------------------------------|-------------------------|-------------------------|-------------|
| United States coastwise ports.....   | \$17,855.15             | \$15,440.21             | \$33,295.36 |
| United States and Canal Zone.....    | 348.50                  | 580.70                  | 929.20      |
| United States and foreign ports..... | 17,907.48               | 12,487.55               | 30,395.03   |
| United States and possessions.....   | 1,936.00                | 3,172.50                | 5,108.50    |
| Between foreign ports.....           | 795.45                  | 3,722.05                | 4,517.50    |
| Totals.....                          | 38,842.58               | 35,403.01               | 74,245.59   |

Of the above \$192,154.54 additional revenue that would have been collected by using the Panama Canal rules of measurement exclusively, \$6,518.40 represents the additional tolls that would have been collected on account of deck cargo.

#### COMPARATIVE TRAFFIC STATISTICS.

The following tabulations permit a ready comparison of commercial traffic through the Canal in October, 1921, with that of preceding months along the lines indicated at the head of the various tables.

#### TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | October,<br>1921. | September,<br>1921. | October,<br>1920. | Average<br>month for<br>past year. |
|-------------------------------------------|-------------------|---------------------|-------------------|------------------------------------|
| United States equivalent net tonnage..... | 866,196           | 748,744             | 762,013           | 776,739                            |
| Panama Canal net tonnage.....             | 1,069,554         | 925,137             | 935,579           | 952,829                            |
| Registered gross tonnage.....             | 1,335,812         | 1,167,220           | 1,190,936         | 1,205,509                          |
| Registered net tonnage.....               | 863,676           | 743,574             | 754,540           | 761,015                            |
| Tolls.....                                | \$1,047,935.62    | \$892,001.54        | \$911,825.58      | \$939,684.44                       |
| Tons of cargo carried.....                | 985,775           | 754,894             | 991,066           | 913,330                            |

#### UNITED STATES COASTWISE TRAFFIC.

|                | Atlantic to Pacific. |                       |             |                   | Pacific to Atlantic. |                       |             |                   |
|----------------|----------------------|-----------------------|-------------|-------------------|----------------------|-----------------------|-------------|-------------------|
|                | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. |
| 1921.          |                      |                       |             |                   |                      |                       |             |                   |
| January.....   | 17                   | 88,086                | \$91,390.00 | 76,593            | 16                   | 62,765                | \$64,343.59 | 81,336            |
| February.....  | 15                   | 80,940                | 79,169.10   | 67,302            | 17                   | 66,043                | 66,703.70   | 68,345            |
| March.....     | 16                   | 71,770                | 75,338.65   | 55,111            | 11                   | 61,804                | 64,470.64   | 52,289            |
| April.....     | 19                   | 92,033                | 94,185.00   | 94,484            | 14                   | 68,368                | 65,523.74   | 59,306            |
| May.....       | 19                   | 82,257                | 84,545.85   | 90,617            | 16                   | 75,593                | 72,813.55   | 93,242            |
| June.....      | 17                   | 96,199                | 94,377.11   | 68,809            | 11                   | 58,986                | 53,938.75   | 57,234            |
| July.....      | 19                   | 101,924               | 99,474.75   | 60,997            | 14                   | 70,477                | 72,103.75   | 91,991            |
| August.....    | 19                   | 86,278                | 81,734.17   | 55,387            | 23                   | 110,899               | 118,316.25  | 129,792           |
| September..... | 25                   | 134,239               | 136,340.58  | 72,620            | 15                   | 88,111                | 83,011.64   | 104,642           |
| October.....   | 22                   | 113,712               | 116,752.05  | 86,442            | 19                   | 96,731                | 101,710.00  | 105,951           |

#### UNITED STATES SHIPPING BOARD VESSELS.

|                | Atlantic to Pacific. |                       |             |                   | Pacific to Atlantic. |                       |             |                   |
|----------------|----------------------|-----------------------|-------------|-------------------|----------------------|-----------------------|-------------|-------------------|
|                | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. |
| 1921.          |                      |                       |             |                   |                      |                       |             |                   |
| January.....   | 14                   | 59,738                | \$64,769.85 | 70,058            | 23                   | 96,877                | \$93,268.29 | 98,075            |
| February.....  | 8                    | 41,024                | 42,951.75   | 35,018            | 20                   | 96,441                | 94,082.01   | 108,285           |
| March.....     | 18                   | 94,823                | 96,782.80   | 83,978            | 8                    | 34,066                | 31,378.00   | 30,025            |
| April.....     | 13                   | 61,176                | 61,590.00   | 60,231            | 12                   | 56,049                | 53,162.18   | 52,908            |
| May.....       | 9                    | 39,614                | 40,180.00   | 48,489            | 21                   | 97,257                | 92,380.47   | 114,107           |
| June.....      | 17                   | 86,361                | 78,770.14   | 65,945            | 11                   | 49,370                | 48,080.00   | 59,696            |
| July.....      | 12                   | 67,851                | 65,796.25   | 29,918            | 12                   | 60,804                | 61,305.00   | 82,767            |
| August.....    | 15                   | 76,570                | 71,607.58   | 46,542            | 18                   | 79,390                | 77,353.39   | 91,897            |
| September..... | 10                   | 53,816                | 51,785.48   | 38,368            | 16                   | 84,433                | 82,566.25   | 109,610           |
| October.....   | 10                   | 55,300                | 53,475.00   | 34,593            | 14                   | 61,980                | 62,318.75   | 79,129            |



## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED, PER VESSEL.

|                                           | October,<br>1921. | September,<br>1921. | October,<br>1920. |
|-------------------------------------------|-------------------|---------------------|-------------------|
| United States equivalent net tonnage..... | 3,397             | 3,358               | 3,202             |
| Panama Canal net tonnage.....             | 4,194             | 4,186               | 3,931             |
| Registered gross tonnage.....             | 5,238             | 5,282               | 5,004             |
| Registered net tonnage.....               | 3,387             | 3,365               | 3,170             |
| Tolls.....                                | \$4,109.55        | \$4,036.21          | \$3,831.32        |
| Tons of cargo (all vessels).....          | 3,866             | 3,416               | 4,139             |
| Tons of cargo (laden vessels only).....   | 4,694             | 4,289               | 4,164             |

## COMMODITY STATISTICS.

A classification of cargo passing through the Canal during the month of October, 1921, has been compiled from declarations of cargo submitted by the ships' masters, and while incomplete, is indicative of the kind and quantity of the various commodities carried by ships transiting the Canal. From the cargo declarations and manifests submitted, it was possible to classify 72 per cent of all cargo passing from the Atlantic to the Pacific, and 93 per cent from Pacific to Atlantic ports. For October, in the Pacific to Atlantic traffic, 5 items, viz., wheat, barley, canned goods, lumber, and nitrate, made up 60 per cent of all cargo. A brief summary of the principal items is shown herewith:

| Commodity.                     | October,<br>1921. | September,<br>1921. | August<br>1921. | July,<br>1921. |
|--------------------------------|-------------------|---------------------|-----------------|----------------|
| Atlantic to Pacific.           |                   |                     |                 |                |
| Oil:                           |                   |                     |                 |                |
| Crude.....                     | 68,891            | 17,981              | 36,454          | 14,491         |
| Refined.....                   | 26,961            | 19,781              | 28,685          | 15,635         |
| Manufactured goods:            |                   |                     |                 |                |
| Iron and steel.....            | 48,074            | 50,488              | 28,373          | 52,574         |
| Machinery, textiles, etc.....  | 14,659            | 19,331              | 8,312           | 21,440         |
| Coal and coke.....             | 21,512            | 16,040              | 24,066          | 8,258          |
| Cotton.....                    | 14,725            | 19,207              | 34,482          | 26,083         |
| Ammonia.....                   | 12,072            | 4,749               | 6,997           | 921            |
| Metals.....                    | 8,880             | 8,467               | 5,286           | 8,575          |
| Phosphates.....                | 6,001             | 5,888               | 13              |                |
| Coffee.....                    | 3,071             | 2,746               | 1,180           | 737            |
| Glucose.....                   | 2,899             | 576                 | 91              | 291            |
| Tobacco.....                   | 2,879             | 2,452               | 893             | 625            |
| Paper.....                     | 2,813             | 1,210               | 1,508           | 1,574          |
| Cement.....                    | 2,681             | 1,834               | 3,511           | 1,871          |
| Liquors.....                   | 1,397             | 1,234               | 174             | 1,419          |
| Other and general.....         | 136,922           | 128,736             | 137,945         | 103,946        |
| Total cargo.....               | 374,437           | 300,720             | 317,970         | 258,440        |
| Pacific to Atlantic.           |                   |                     |                 |                |
| Wheat.....                     | 128,375           | 75,486              | 80,231          | 99,267         |
| Barley.....                    | 67,092            | 107,831             | 77,661          | 27,780         |
| Canned goods:                  |                   |                     |                 |                |
| Fish.....                      | 32,761            | 17,232              | 7,972           | 10,596         |
| Fruit.....                     | 25,547            | 35,427              | 10,921          | 10,482         |
| Miscellaneous.....             | 2,523             | 4,302               | 2,875           | 2,906          |
| Lumber.....                    | 56,606            | 26,750              | 35,054          | 31,699         |
| Nitrate.....                   | 54,256            | 22,758              | 39,349          | 26,051         |
| Beans, peas, lentils, etc..... | 20,547            | 6,774               | 5,571           | 5,762          |
| Flour.....                     | 19,000            | 15,101              | 18,946          | 28,940         |
| Sugar.....                     | 20,261            | 6,657               | 49,406          | 48,394         |
| Phosphates.....                | 14,057            |                     | 6,650           | 7,500          |
| Cold storage:                  |                   |                     |                 |                |
| Beef and mutton.....           | 10,431            | 6,534               | 21,797          | 21,723         |
| Miscellaneous.....             | 8,308             | 4,066               | 9,861           | 12,102         |
| Cotton.....                    | 12,592            | 5,392               | 4,140           | 3,281          |
| Metals.....                    | 11,078            | 10,516              | 21,425          | 11,301         |
| Copra.....                     | 9,196             | 6,817               | 3,115           | 2,450          |
| Wool.....                      | 9,081             | 5,522               | 10,468          | 14,030         |
| Seed, cotton, sesame, etc..... | 7,936             | 2,347               | 5,358           | 5,792          |
| Coffee.....                    | 4,594             | 6,013               | 6,710           | 6,675          |
| Fruit, fresh and dried.....    | 4,162             | 6,664               | 5,192           | 3,274          |
| Ten.....                       | 3,950             | 546                 | 444             | 259            |
| Cacao.....                     | 3,844             | 4,327               | 1,469           | 4,072          |
| Ivory nuts.....                | 2,811             | 3,164               | 1,492           | 2,368          |
| Other and general.....         | 82,330            | 73,948              | 95,196          | 63,838         |
| Total cargo.....               | 611,338           | 454,174             | 521,303         | 450,542        |

## TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

While all cargo-carrying vessels pay tolls on their net tonnage, as determined by established rules for measuring their available cargo-carrying space, yet the rate of such tolls per cargo ton furnishes interesting data, varying as it does not only in different ships but in vessels of different nationalities. The average rate of tolls paid on each ton (2,240 pounds) of cargo passing through the Panama Canal from the Atlantic to the Pacific was \$1.09, and from the Pacific to the Atlantic \$0.79 per ton, with a general average of \$0.90 per ton. The average rate paid per cargo ton, by nationality of vessels, is shown in the following statement:

|                                              | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | General<br>average. |
|----------------------------------------------|----------------------------|----------------------------|---------------------|
| British.....                                 | \$1.02                     | \$0.76                     | \$0.85              |
| Chilean.....                                 | 1.86                       | 2.51                       | 2.11                |
| Danish.....                                  | 1.04                       | .64                        | .72                 |
| Dutch.....                                   | 1.48                       | .50                        | .61                 |
| French.....                                  | 12.37                      | 1.06                       | 3.33                |
| Japanese.....                                | .79                        | .66                        | .73                 |
| Norwegian.....                               | 2.03                       | .75                        | 1.23                |
| Peruvian.....                                | 4.97                       | .72                        | 1.27                |
| Spanish.....                                 |                            | .62                        | .62                 |
| Swedish.....                                 | 2.30                       | .50                        | .94                 |
| United States.....                           | 1.11                       | .87                        | 1.00                |
| Average rate all ships, October, 1921.....   | 1.09                       | .78                        | .90                 |
| Average rate all ships, September, 1921..... | 1.23                       | .77                        | .95                 |
| Average rate all ships, August, 1921.....    | 1.18                       | .88                        | .99                 |

The rate of tolls per cargo ton paid by vessels transiting the Canal in October, 1921, varied from \$47.88 per cargo ton paid by the steamship *Sarffos*, Norwegian registry, bound from New York to Guayaquil, and carrying 23 tons of cargo, on which tolls of \$1,101.25 were assessed; to 44.2 cents per cargo ton, paid by the steamship *Reading*, British registry, bound from San Francisco to Hull, and carrying 6,728 tons of barley, on which tolls of \$2,971.25 were assessed.

## ORIGIN AND DESTINATION OF TONNAGE.

Analyzing the traffic through the Canal during October it will be seen that in point of tonnage more than 50 per cent of the Atlantic to Pacific traffic was routed to the west coast of the United States and Canada, and in tons of cargo carried more than 36 per cent was destined for this area. Similarly, in the Pacific to Atlantic traffic more than 50 per cent of all tonnage and 63 per cent of all cargo through the Canal in October originated from the west coast of the United States and Canada.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past 12 months, the figures representing the Panama Canal net tonnage.

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.             | East coast<br>of United<br>States. | Europe. | Mexico. | Cristobal. | Miscel-<br>laneous. | Total.  |
|--------------------|------------------------------------|---------|---------|------------|---------------------|---------|
| October, 1920..... | 275,496                            | 126,020 | 39,600  | 24,205     | 5,215               | 470,536 |
| November.....      | 275,829                            | 104,856 | 43,350  | 20,399     | 23,517              | 467,951 |
| December.....      | 332,418                            | 128,739 | 53,070  | 36,097     | 4,608               | 554,932 |
| January, 1921..... | 284,111                            | 129,939 | 60,564  | 21,373     | 21,732              | 517,719 |
| February.....      | 268,727                            | 75,532  | 55,859  | 18,844     | 16,271              | 435,233 |
| March.....         | 291,937                            | 188,548 | 85,275  | 20,731     | 27,100              | 613,591 |
| April.....         | 261,497                            | 131,840 | 46,289  | 21,846     | 31,034              | 492,506 |
| May.....           | 231,751                            | 107,404 | 48,151  | 20,612     | 6,511               | 414,429 |
| June.....          | 250,806                            | 79,129  | 37,401  | 28,920     | 19,046              | 415,302 |
| July.....          | 221,318                            | 124,108 | 23,167  | 23,488     | 10,970              | 403,051 |
| August.....        | 257,600                            | 175,768 | 15,527  | 21,202     | 17,122              | 487,219 |
| September.....     | 277,984                            | 160,534 | 10,889  | 23,038     | 58,189              | 530,634 |
| October.....       | 262,440                            | 226,431 | 27,828  | 20,516     | 33,960              | 571,175 |
| Average month..... | 269,123                            | 127,701 | 43,262  | 23,396     | 20,110              | 483,592 |

## DESTINATION OF ALL TONNAGE FROM ATLANTIC TO PACIFIC.

| Month.             | West coast of United States. | West coast of South America. | Far East. | Austral-asia. | Miscellaneous. | Total.  |
|--------------------|------------------------------|------------------------------|-----------|---------------|----------------|---------|
| October, 1920..... | 82,879                       | 203,773                      | 91,990    | 79,380        | 12,414         | 470,536 |
| November.....      | 142,693                      | 160,404                      | 43,431    | 100,879       | 20,544         | 467,951 |
| December.....      | 91,963                       | 248,176                      | 99,594    | 84,168        | 31,031         | 554,932 |
| January, 1921..... | 163,295                      | 170,861                      | 56,082    | 94,583        | 32,898         | 517,719 |
| February.....      | 119,271                      | 168,904                      | 66,958    | 62,507        | 17,593         | 435,233 |
| March.....         | 139,889                      | 140,075                      | 118,053   | 153,910       | 55,664         | 613,591 |
| April.....         | 141,584                      | 135,622                      | 131,637   | 64,155        | 19,508         | 492,506 |
| May.....           | 125,091                      | 103,143                      | 82,499    | 82,582        | 21,114         | 414,429 |
| June.....          | 143,217                      | 106,369                      | 83,063    | 46,298        | 36,355         | 415,302 |
| July.....          | 194,358                      | 45,391                       | 63,969    | 58,062        | 41,271         | 403,051 |
| August.....        | 164,577                      | 106,886                      | 94,486    | 70,551        | 50,719         | 487,219 |
| September.....     | 268,758                      | 90,105                       | 80,242    | 53,309        | 38,220         | 530,634 |
| October.....       | 280,483                      | 78,532                       | 100,332   | 69,057        | 42,771         | 571,175 |
| Average month..... | 148,140                      | 140,476                      | 84,334    | 79,199        | 31,443         | 483,592 |

## ORIGIN OF ALL TONNAGE FROM PACIFIC TO ATLANTIC.

| Month.             | West coast of United States. | West coast of South America. | Austral-asia. | Far East. | Miscellaneous. | Total.  |
|--------------------|------------------------------|------------------------------|---------------|-----------|----------------|---------|
| October, 1920..... | 168,231                      | 206,832                      | 48,824        | 16,686    | 24,470         | 465,043 |
| November.....      | 152,620                      | 193,348                      | 67,251        | 32,687    | 16,018         | 461,924 |
| December.....      | 145,192                      | 239,389                      | 58,175        | 11,146    | 19,084         | 472,986 |
| January, 1921..... | 151,034                      | 230,437                      | 115,206       | 26,843    | 53,084         | 576,604 |
| February.....      | 173,815                      | 226,242                      | 34,616        | 22,473    | 24,459         | 481,605 |
| March.....         | 163,294                      | 203,002                      | 62,652        | 28,525    | 41,754         | 499,227 |
| April.....         | 139,495                      | 168,585                      | 86,560        | 29,756    | 38,601         | 462,997 |
| May.....           | 174,128                      | 137,258                      | 81,086        | 12,407    | 45,309         | 450,188 |
| June.....          | 116,521                      | 112,474                      | 75,400        | 18,740    | 23,040         | 346,175 |
| July.....          | 174,412                      | 99,745                       | 70,124        | 41,084    | 22,197         | 407,562 |
| August.....        | 229,629                      | 110,248                      | 68,661        | 20,628    | 48,894         | 478,057 |
| September.....     | 218,453                      | 84,212                       | 30,814        | 14,762    | 46,262         | 394,503 |
| October.....       | 252,645                      | 124,560                      | 41,436        | 37,720    | 42,018         | 498,379 |
| Average month..... | 167,235                      | 167,648                      | 66,614        | 22,978    | 33,598         | 458,073 |

## DESTINATION OF ALL TONNAGE FROM PACIFIC TO ATLANTIC.

| Month.             | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|--------------------|---------|------------------------------|---------|------------|----------------|---------|
| October, 1920..... | 203,465 | 146,741                      | 62,710  | 29,144     | 22,983         | 465,043 |
| November.....      | 209,701 | 160,628                      | 49,066  | 23,801     | 18,728         | 461,924 |
| December.....      | 198,618 | 157,070                      | 69,008  | 34,099     | 14,191         | 472,986 |
| January, 1921..... | 293,836 | 188,133                      | 49,947  | 23,295     | 21,393         | 576,604 |
| February.....      | 175,324 | 163,690                      | 74,363  | 18,056     | 50,174         | 481,605 |
| March.....         | 190,683 | 189,793                      | 83,700  | 21,228     | 13,823         | 499,227 |
| April.....         | 189,209 | 197,311                      | 53,334  | 22,043     | 1,100          | 462,997 |
| May.....           | 201,548 | 140,940                      | 73,705  | 21,549     | 12,446         | 450,188 |
| June.....          | 155,147 | 136,292                      | 18,324  | 26,112     | 10,300         | 346,175 |
| July.....          | 205,690 | 134,047                      | 23,123  | 28,770     | 15,932         | 407,562 |
| August.....        | 231,830 | 194,279                      | 27,256  | 22,022     | 2,670          | 478,057 |
| September.....     | 204,820 | 140,555                      | 26,478  | 17,114     | 5,536          | 394,503 |
| October.....       | 259,613 | 170,189                      | 18,222  | 30,955     | 19,400         | 498,379 |
| Average month..... | 204,989 | 162,457                      | 50,918  | 23,936     | 15,773         | 458,073 |

In the foregoing tabulations it will be seen that the two regions showing the greatest increase of traffic are the west coast of the United States and Europe. This increase is due in part to the heavy grain shipments from the west coast of the United States to the British Isles and continental Europe, there having been 22 full cargoes of wheat and barley through the Canal in October, while in addition these 2 grains formed a large part of many mixed cargoes.

The amount of tonnage routed to and from the west coast of South America was considerably beneath the normal tonnage as represented by the average month for the past year. The nitrate shipments, while greater than for the past few months, totaled only about a third of the heavy shipments of a year ago.

Oil shipments from the east coast of Mexico were the highest since June, 1921, but were less than half the normal shipments of several months ago. Traffic to and from the Far East was a little above the normal while that to Australasia was below the average for the past year. Tables on pages 232 and 233 show the origin and destination of all cargo passing through the Canal.

## TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Canal by trade routes for October, 1921, has previously been compiled and was published in THE PANAMA CANAL RECORD under date of November 9, 1921. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes. Traffic for the preceding month and for the corresponding month of last year is also shown for comparative purposes.

| Vessels plying between—              | Atlantic to Pacific.      |                  |                | Pacific to Atlantic.      |                  |                |
|--------------------------------------|---------------------------|------------------|----------------|---------------------------|------------------|----------------|
|                                      | October, 1921.            | September, 1921. | October, 1920. | October, 1921.            | September, 1921. | October, 1920. |
|                                      | Number of vessels.        |                  |                | Number of vessels.        |                  |                |
| Europe and United States.....        | 27                        | 18               | 6              | 29                        | 24               | 22             |
| United States coastwise.....         | 22                        | 25               | 13             | 19                        | 15               | 9              |
| United States and Far East.....      | 19                        | 15               | 18             | 4                         | 2                | 4              |
| Cristobal and South America.....     | 11                        | 12               | 14             | 12                        | 11               | 16             |
| United States and South America..... | 10                        | 9                | 22             | 12                        | 8                | 20             |
| Europe and Australasia.....          | 8                         | 4                | 5              | 6                         | 4                | 5              |
| Europe and South America.....        | 8                         | 10               | 16             | 12                        | 9                | 13             |
| United States and Australasia.....   | 4                         | 4                | 10             | 1                         | 1                | 3              |
| Europe and Canada.....               | 3                         | 3                |                | 5                         | 6                | 1              |
| Mexico and South America.....        | 1                         | 1                | 7              | 2                         | 2                | 8              |
| Mexico and United States.....        | 1                         |                  |                | 2                         | 2                | 3              |
| Miscellaneous routings.....          | 17                        | 27               | 8              | 20                        | 9                | 27             |
| Totals.....                          | 131                       | 128              | 119            | 124                       | 93               | 131            |
|                                      | Panama Canal net tonnage. |                  |                | Panama Canal net tonnage. |                  |                |
| Europe and United States.....        | 135,184                   | 78,307           | 29,339         | 125,113                   | 112,759          | 108,076        |
| United States coastwise.....         | 113,712                   | 134,239          | 51,477         | 96,731                    | 88,111           | 42,714         |
| United States and Far East.....      | 93,947                    | 73,761           | 91,990         | 19,465                    | 8,377            | 16,686         |
| Cristobal and South America.....     | 16,733                    | 17,658           | 20,644         | 18,077                    | 12,409           | 26,819         |
| United States and South America..... | 27,034                    | 30,257           | 83,306         | 36,182                    | 27,358           | 63,847         |
| Europe and Australasia.....          | 46,421                    | 30,603           | 36,105         | 36,498                    | 26,084           | 32,338         |
| Europe and South America.....        | 28,832                    | 36,538           | 60,576         | 53,704                    | 34,236           | 52,725         |
| United States and Australasia.....   | 17,558                    | 18,655           | 43,275         | 4,938                     | 4,730            | 16,486         |
| Europe and Canada.....               | 15,994                    | 15,086           |                | 26,043                    | 31,741           | 4,125          |
| Mexico and South America.....        | 5,311                     | 4,408            | 34,046         | 9,719                     | 9,587            | 40,954         |
| Mexico and United States.....        | 1,121                     |                  |                | 6,407                     | 10,506           | 16,203         |
| Miscellaneous routings.....          | 69,328                    | 91,122           | 19,778         | 65,502                    | 28,605           | 44,070         |
| Totals.....                          | 571,175                   | 530,634          | 470,536        | 498,379                   | 394,503          | 465,043        |
|                                      | Tons of cargo carried.    |                  |                | Tons of cargo carried.    |                  |                |
| Europe and United States.....        | 10,891                    | 280              | 8,981          | 209,788                   | 178,588          | 156,379        |
| United States coastwise.....         | 86,442                    | 72,620           | 44,659         | 105,951                   | 104,642          | 46,797         |
| United States and Far East.....      | 123,689                   | 105,935          | 125,642        | 27,918                    | 11,516           | 28,370         |
| Cristobal and South America.....     | 2,309                     | 2,362            | 13,689         | 11,107                    | 8,424            | 21,131         |
| United States and South America..... | 10,398                    | 8,415            | 91,884         | 31,664                    | 21,979           | 88,348         |
| Europe and Australasia.....          | 35,426                    | 19,686           | 32,967         | 33,305                    | 20,192           | 23,686         |
| Europe and South America.....        | 13,332                    | 12,365           | 30,014         | 67,808                    | 44,570           | 64,752         |
| United States and Australasia.....   | 16,432                    | 16,900           | 65,355         | 3,300                     | 5,828            | 21,879         |
| Europe and Canada.....               | 11,114                    | 12,115           |                | 39,985                    | 47,713           | 6,000          |
| Mexico and South America.....        | 9,500                     | 7,889            | 54,161         |                           |                  |                |
| Mexico and United States.....        |                           |                  |                | 3,233                     |                  | 6,000          |
| Miscellaneous routings.....          | 54,904                    | 42,153           | 21,361         | 77,279                    | 10,722           | 39,011         |
| Totals.....                          | 374,437                   | 300,720          | 488,713        | 611,338                   | 454,174          | 502,353        |

## SHIPS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships and other noncargo-carrying vessels, has been relatively high the past 2 months. Other than tankers, the majority of these vessels were en route from Europe and the eastern coast of the United States to the western coast of the United States and Canada. A number of these vessels were charged full tolls due to carrying a greater quantity of coal than allowed under ballast rates. The following tabulation shows by nationality all cargo-carrying ships transiting the Canal without cargo during October:



|                    | Atlantic to Pacific. |                           |             | Pacific to Atlantic. |                           |            |
|--------------------|----------------------|---------------------------|-------------|----------------------|---------------------------|------------|
|                    | No. of ships.        | Panama Canal net tonnage. | Tolls.      | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
| French.....        | 12                   | 59,246                    | \$47,493.37 | 1                    | 2,096                     | \$1,616.25 |
| British.....       | 2                    | 9,548                     | 6,874.56    | 2                    | 9,719                     | 6,997.68   |
| Dutch.....         | 2                    | 7,807                     | 7,563.60    |                      |                           |            |
| Greek.....         | 9                    | 39,925                    | 39,269.02   |                      |                           |            |
| Japanese.....      | 3                    | 11,242                    | 10,250.19   |                      |                           |            |
| Norwegian.....     | 1                    | 4,235                     | 3,049.20    |                      |                           |            |
| Spanish.....       | 1                    | 5,661                     | 4,075.92    |                      |                           |            |
| Swedish.....       | 5                    | 15,170                    | 12,714.72   | 2                    | 13,276                    | 9,646.41   |
| United States..... |                      |                           |             |                      |                           |            |
| Totals.....        | 35                   | 152,834                   | 131,290.58  | 5                    | 25,091                    | 18,260.34  |

## LATIN-AMERICAN TRAFFIC.

The following tabulations show the number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality:

## ATLANTIC TO PACIFIC.

| Nationality.         | No. of ships. | United States equivalent. | Panama Canal net. | Registered. |         | Tolls.      | Tons of cargo. |
|----------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                      |               |                           |                   | Gross.      | Net.    |             |                |
| British.....         | 15            | 32,460                    | 40,398            | 51,547      | 32,513  | \$40,109.22 | 34,421         |
| United States.....   | 11            | 25,530                    | 30,910            | 39,582      | 24,496  | 29,546.08   | 23,267         |
| Chilean.....         | 3             | 6,028                     | 9,201             | 12,312      | 6,853   | 7,535.00    | 4,053          |
| Peruvian.....        | 3             | 3,699                     | 7,742             | 12,452      | 6,277   | 4,623.75    | 931            |
| Norwegian.....       | 3             | 2,592                     | 4,057             | 4,603       | 2,574   | 3,007.12    | 72             |
| French.....          | 2             | 6,374                     | 7,028             | 9,622       | 6,104   | 7,788.95    | 524            |
| Japanese.....        | 1             | 5,513                     | 6,385             | 9,049       | 6,502   | 6,891.25    | 8,949          |
| Danish.....          | 1             | 3,127                     | 4,090             | 4,950       | 3,163   | 3,908.75    | 3,003          |
| Dutch.....           | 1             | 1,603                     | 3,057             | 2,655       | 1,625   | 2,003.75    | 1,354          |
| Swedish.....         | 1             | 1,091                     | 1,227             | 1,825       | 1,282   | 1,363.75    | 832            |
| October, 1921.....   | 41            | 88,017                    | 114,095           | 148,597     | 91,389  | 106,777.62  | 77,406         |
| September, 1921..... | 43            | 92,630                    | 120,305           | 158,344     | 95,074  | 110,316.04  | 62,130         |
| October, 1920.....   | 66            |                           | 212,902           | 278,230     | 175,320 |             | 204,009        |

## PACIFIC TO ATLANTIC.

| Nationality.         | No. of ships. | United States equivalent. | Panama Canal net. | Registered. |         | Tolls.      | Tons of cargo. |
|----------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                      |               |                           |                   | Gross.      | Net.    |             |                |
| British.....         | 21            | 55,663                    | 70,047            | 89,769      | 54,370  | \$65,417.53 | 65,187         |
| United States.....   | 14            | 34,325                    | 49,321            | 54,007      | 34,901  | 37,191.41   | 29,425         |
| Chilean.....         | 3             | 4,549                     | 7,915             | 9,080       | 5,505   | 5,686.25    | 2,262          |
| Peruvian.....        | 3             | 3,699                     | 7,742             | 12,452      | 6,277   | 4,623.75    | 6,368          |
| French.....          | 2             | 5,755                     | 6,242             | 8,718       | 5,561   | 6,116.25    | 4,250          |
| Norwegian.....       | 2             | 3,934                     | 4,550             | 5,594       | 3,934   | 4,786.45    | 6,355          |
| Danish.....          | 1             | 4,257                     | 5,317             | 6,645       | 4,244   | 5,321.25    | 6,193          |
| Dutch.....           | 1             | 2,224                     | 3,807             | 3,623       | 2,229   | 2,780.00    | 5,344          |
| October, 1921.....   | 47            | 114,406                   | 145,941           | 189,888     | 117,021 | 131,832.89  | 125,384        |
| September, 1921..... | 40            | 95,813                    | 117,730           | 161,562     | 100,156 | 107,251.34  | 81,621         |
| October, 1920.....   | 74            |                           | 238,417           | 314,676     | 195,235 |             | 218,297        |

## CLASSIFICATION OF COMMERCIAL TRAFFIC.\*

A statement of this month's commercial traffic, classified by nationality of vessels, is shown in the following tabulations:

| Nationality.              | No. of ships. | Tonnage.                  |                   |             |         | Tolls.       | Tons of cargo. |
|---------------------------|---------------|---------------------------|-------------------|-------------|---------|--------------|----------------|
|                           |               | United States equivalent. | Panama Canal net. | Registered. |         |              |                |
|                           |               |                           |                   | Gross.      | Net.    |              |                |
| From Atlantic to Pacific. |               |                           |                   |             |         |              |                |
| British.....              | 42            | 146,288                   | 186,631           | 226,782     | 146,906 | \$170,515.92 | 120,358        |
| Chilean.....              | 3             | 6,028                     | 9,201             | 12,312      | 6,853   | 7,535.00     | 4,053          |
| Danish.....               | 2             | 8,318                     | 9,753             | 11,863      | 8,381   | 10,397.50    | 9,953          |

\* Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant ships chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Ships not paying tolls are classed as "noncommercial" and are included elsewhere in this report.

| Nationality.                    | No. of ships. | Tonnage.                  |                   |             |         | Tolls.       | Tons of cargo. |
|---------------------------------|---------------|---------------------------|-------------------|-------------|---------|--------------|----------------|
|                                 |               | United States equivalent. | Panama Canal net. | Registered. |         |              |                |
|                                 |               |                           |                   | Gross.      | Net.    |              |                |
| From Atlantic to Pacific—Contd. |               |                           |                   |             |         |              |                |
| Dutch.....                      | 3             | 8,684                     | 12,605            | 14,026      | 8,675   | \$8,878.31   | 1,354          |
| French.....                     | 4             | 10,864                    | 11,554            | 15,743      | 10,037  | 13,220.15    | 1,069          |
| Greek.....                      | 2             | 7,553                     | 7,807             | 9,253       | 5,714   | 7,563.60     | .....          |
| Japanese.....                   | 19            | 78,302                    | 87,605            | 114,712     | 77,909  | 90,495.17    | 65,967         |
| Norwegian.....                  | 6             | 15,822                    | 19,805            | 23,059      | 14,034  | 18,103.94    | 3,872          |
| Peruvian.....                   | 3             | 3,699                     | 7,742             | 12,452      | 6,277   | 4,623.75     | 931            |
| Spanish.....                    | 1             | 3,674                     | 4,235             | 5,754       | 3,452   | 3,049.20     | .....          |
| Swedish.....                    | 3             | 8,833                     | 12,344            | 13,025      | 9,848   | 9,672.17     | 1,838          |
| United States.....              | 43            | 161,648                   | 201,893           | 249,382     | 160,503 | 197,940.22   | 165,942        |
| Totals.....                     | 131           | 459,713                   | 571,175           | 708,363     | 458,589 | 541,994.93   | 374,437        |
| From Pacific to Atlantic.       |               |                           |                   |             |         |              |                |
| British.....                    | 48            | 159,634                   | 197,605           | 247,708     | 155,298 | 194,987.53   | 247,137        |
| Chilean.....                    | 3             | 4,549                     | 7,915             | 9,080       | 5,505   | 5,686.25     | 2,262          |
| Danish.....                     | 5             | 21,164                    | 25,415            | 30,526      | 22,691  | 26,287.85    | 40,774         |
| Dutch.....                      | 2             | 4,420                     | 7,275             | 7,307       | 4,436   | 5,525.00     | 11,044         |
| French.....                     | 2             | 5,755                     | 6,242             | 8,718       | 5,561   | 6,116.25     | 4,250          |
| Japanese.....                   | 10            | 34,845                    | 38,021            | 49,671      | 33,348  | 53,177.55    | 64,303         |
| Norwegian.....                  | 2             | 3,934                     | 4,550             | 5,594       | 3,934   | 4,786.45     | 6,355          |
| Panamanian.....                 | 1             | 104                       | 120               | 193         | 103     | 86.40        | .....          |
| Peruvian.....                   | 3             | 3,699                     | 7,742             | 12,452      | 6,277   | 4,623.75     | 6,368          |
| Spanish.....                    | 1             | 3,031                     | 3,437             | 4,648       | 2,877   | 3,788.75     | 6,100          |
| Swedish.....                    | 1             | 2,248                     | 4,089             | 3,767       | 2,865   | 2,810.00     | 5,604          |
| United States.....              | 46            | 163,100                   | 195,968           | 247,785     | 162,192 | 198,064.91   | 217,141        |
| Totals.....                     | 124           | 406,483                   | 498,379           | 627,449     | 405,087 | 505,940.69   | 611,338        |
| Combined traffic, both ways.    |               |                           |                   |             |         |              |                |
| British.....                    | 90            | 305,922                   | 384,236           | 474,490     | 302,204 | 365,503.45   | 367,495        |
| Chilean.....                    | 6             | 10,577                    | 17,116            | 21,392      | 12,358  | 13,221.25    | 6,315          |
| Danish.....                     | 7             | 29,482                    | 35,168            | 42,389      | 31,072  | 36,685.35    | 50,727         |
| Dutch.....                      | 5             | 13,104                    | 19,880            | 21,333      | 13,111  | 14,403.31    | 12,398         |
| French.....                     | 6             | 16,619                    | 17,796            | 24,461      | 15,598  | 19,336.40    | 5,319          |
| Greek.....                      | 2             | 7,553                     | 7,807             | 9,253       | 5,714   | 7,563.60     | .....          |
| Japanese.....                   | 29            | 113,147                   | 125,626           | 164,383     | 111,257 | 143,672.72   | 129,370        |
| Norwegian.....                  | 8             | 19,756                    | 24,355            | 28,653      | 17,968  | 22,890.39    | 10,227         |
| Panamanian.....                 | 1             | 104                       | 120               | 193         | 103     | 86.40        | .....          |
| Peruvian.....                   | 6             | 7,398                     | 15,484            | 24,904      | 12,554  | 9,247.50     | 7,299          |
| Spanish.....                    | 2             | 6,705                     | 7,672             | 10,402      | 6,329   | 6,837.95     | 6,100          |
| Swedish.....                    | 4             | 11,081                    | 16,433            | 16,792      | 12,713  | 12,482.17    | 7,442          |
| United States.....              | 89            | 324,748                   | 397,861           | 497,167     | 322,695 | 396,005.13   | 383,083        |
| Totals.....                     | 255           | 866,196                   | 1,069,554         | 1,335,812   | 863,676 | 1,047,935.62 | 985,775        |

A further classification of the commercial traffic is shown below:

|                             | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|-----------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                             | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels:     |                      |                           |              |                      |                           |              |
| Laden.....                  | 95                   | 417,772                   | \$410,277.60 | 115                  | 472,988                   | \$476,887.95 |
| Ballast (excess fuel).....  | 12                   | 52,816                    | 59,063.30    |                      |                           |              |
| Ballast.....                | 23                   | 100,018                   | 72,227.28    | 5                    | 25,091                    | 18,260.34    |
| Dredge.....                 | 1                    | 569                       | 426.75       |                      |                           |              |
| Survey ship (magnetic)..... |                      |                           |              | 1                    | 180                       | 216.00       |
| Tug.....                    |                      |                           |              | 1                    | 120                       | 86.40        |
| Warships.....               |                      |                           |              | 2                    | 20,980                    | 10,490.00    |
| Total commercial.....       | 131                  | 571,175                   | 541,994.93   | 124                  | 498,379                   | 505,940.69   |
| Motor ships.....            | 5                    | 26,497                    | 24,359.67    | 5                    | 24,886                    | 23,556.25    |
| Motor schooners.....        | 1                    | 72                        | 78.75        | 2                    | 144                       | 157.50       |
| Schooner.....               | 1                    | 163                       | 195.60       |                      |                           |              |

\* Indicates displacement tonnage.

#### CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of, and amount of cargo carried by vessels transiting the Canal free of tolls. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been as indicated. This statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal, these not being included in the commercial traffic.

|                                 | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |          |
|---------------------------------|----------------------|---------------------------|------------|----------------------|---------------------------|----------|
|                                 | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.   |
| United States Naval vessels:    |                      |                           |            |                      |                           |          |
| Battleship.....                 | 1                    | 16,000                    | \$8,000.00 |                      |                           |          |
| Transport.....                  | 1                    | 4,944                     | 5,932.00   |                      |                           |          |
| Tugs.....                       | 3                    | 2,510                     | 1,255.00   | 2                    | 1,510                     | \$755.00 |
| Submarine chasers.....          | 2                    | 154                       | 77.00      | 2                    | 154                       | 77.00    |
| Patrol yacht.....               | 1                    | 2,600                     | 1,300.00   |                      |                           |          |
| Gunboat.....                    |                      |                           |            | 1                    | 3,200                     | 1,600.00 |
| Supply ship.....                |                      |                           |            | 1                    | 4,004                     | 4,804.80 |
| Submarines.....                 |                      |                           |            | 3                    | 1,455                     | 727.50   |
| United States Army vessels:     |                      |                           |            |                      |                           |          |
| Transport.....                  | 1                    | 4,331                     | 5,197.20   |                      |                           |          |
| Mine layer.....                 |                      |                           |            | 1                    | 46                        | 33.12    |
| Vessel with naval supplies..... | 1                    | 4,099                     | 4,918.80   |                      |                           |          |
| Launches, etc.....              | 6                    | 7                         | 5.40       |                      |                           |          |

\* Indicates displacement tonnage.

Cargo through the Canal free of tolls:

From Atlantic to Pacific..... tons.. 10,575

From Pacific to Atlantic..... tons.. 2

#### STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of October, 1921, are shown in the following tabulations:

|                                                                          | Cristobal. | Balboa.   | Total.    |
|--------------------------------------------------------------------------|------------|-----------|-----------|
| Vessels entering port but not transiting Canal:                          |            |           |           |
| Number entered.....                                                      | 60         | 6         | 66        |
| Number cleared.....                                                      | 58         | 6         | 64        |
| Registered gross tonnage of above:                                       |            |           |           |
| Entered.....                                                             | 288,151    | 14,869    | 303,020   |
| Cleared.....                                                             | 276,636    | 14,869    | 291,505   |
| Registered net tonnage of above:                                         |            |           |           |
| Entered.....                                                             | 171,460    | 9,340     | 180,800   |
| Cleared.....                                                             | 162,313    | 9,340     | 171,653   |
| Vessels transiting the Canal and handling passengers or cargo at port:   |            |           |           |
| Number entered.....                                                      | 47         | 39        | 86        |
| Number cleared.....                                                      | 45         | 38        | 83        |
| Registered gross tonnage of above:                                       |            |           |           |
| Entered.....                                                             | 205,831    | 169,618   | 375,449   |
| Cleared.....                                                             | 199,829    | 162,851   | 362,680   |
| Registered net tonnage of above:                                         |            |           |           |
| Entered.....                                                             | 130,139    | 100,777   | 230,916   |
| Cleared.....                                                             | 126,619    | 96,446    | 223,065   |
| All vessels entering and clearing, including those transiting the Canal: |            |           |           |
| Number entered.....                                                      | 335        | 266       | 571       |
| Number cleared.....                                                      | 304        | 265       | 569       |
| Registered gross tonnage of above:                                       |            |           |           |
| Entered.....                                                             | 1,651,837  | 1,415,948 | 3,067,785 |
| Cleared.....                                                             | 1,650,327  | 1,413,197 | 3,063,524 |
| Registered net tonnage of above:                                         |            |           |           |
| Entered.....                                                             | 1,062,797  | 908,469   | 1,971,266 |
| Cleared.....                                                             | 1,061,492  | 906,906   | 1,968,398 |
| Transit cargo arriving..... tons..                                       | 982,337    | 979,362   | 1,961,699 |
| Transit cargo clearing..... tons..                                       | 987,309    | 992,445   | 1,979,754 |
| Cargo received for transshipment..... tons..                             | 22,610     | 25        | 22,635    |
| Cargo transhipped..... tons..                                            | 21,468     | 4         | 21,472    |
| Local cargo arriving..... tons..                                         | 31,155     | 13,815    | 44,970    |
| Local cargo shipped..... tons..                                          | 3,367      | 234       | 3,601     |
| Cargo handled by Receiving and Forwarding Agency, Panama Railroad:       |            |           |           |
| Received..... tons..                                                     | 37,453     | 2,164     | 39,617    |
| Dispatched..... tons..                                                   | 24,583     | 989       | 25,572    |
| Rehandled..... tons..                                                    | 1,092      | 77        | 1,169     |
| Stevedored..... tons..                                                   | 28,474     | 283       | 28,757    |
| Vessels supplied with bunker coal:                                       |            |           |           |
| Commercial, other than Panama Railroad.....                              | 58         | 3         | 61        |
| Panama Railroad vessels.....                                             | 3          |           | 3         |
| United States Army vessels.....                                          | 2          | 2         | 4         |
| Total vessels supplied with bunker coal.....                             | 63         | 5         | 68        |

|                                                             | Cristobal.  | Balboa.     | Total.      |
|-------------------------------------------------------------|-------------|-------------|-------------|
| Coal supplied to above vessels:                             |             |             |             |
| Commercial, other than Panama Railroad..... tons..          | 15,210      | 591         | 15,801      |
| Panama Railroad vessels..... tons..                         | 553         |             | 553         |
| United States Army vessels..... tons..                      | 42          | 35          | 77          |
| Total coal supplied to vessels..... tons..                  | 15,805      | 626         | 16,431      |
| Coal issues, miscellaneous:                                 |             |             |             |
| Panama Canal departments..... tons..                        | 529         | 145         | 674         |
| Panama Railroad, excepting vessels..... tons..              | 448         |             | 448         |
| United States Army, excepting vessels..... tons..           | 336         |             | 336         |
| Individuals and companies..... tons..                       | 350         |             | 350         |
| Total issues from Panama Canal deposits:                    |             |             |             |
| October, 1921..... tons..                                   | 17,468      | 771         | 18,239      |
| September, 1921..... tons..                                 | 13,759      | 1,745       | 15,504      |
| October, 1920..... tons..                                   | 29,178      | 3,291       | 32,469      |
| Coal on hand, November 1, 1921..... tons..                  | 136,790     | 34,588      | 171,378     |
| Coal on hand, October 1, 1921..... tons..                   | 126,843     | 35,359      | 162,202     |
| Coal received during October, 1921..... tons..              | 27,415      |             | 27,415      |
| <i>United States Navy coal account.</i>                     |             |             |             |
| Issued to United States Navy, including vessels..... tons.. | 1,009       | 76          | 1,085       |
| Coal on hand, November 1, 1921..... tons..                  | 71,155      | 8,073       | 79,228      |
| Coal on hand, October 1, 1921..... tons..                   | 65,958      | 8,149       | 74,107      |
| Coal received during October, 1921..... tons..              | 6,206       |             | 6,206       |
| Fuel oil issues, miscellaneous:                             |             |             |             |
| To Panama Canal departments..... bbls..                     | 4,283       | 24,656      | 28,939      |
| To Panama Railroad..... bbls..                              | 749         |             | 749         |
| To Army and Navy..... bbls..                                | 204         | 497         | 701         |
| Total issues..... bbls..                                    | 5,236       | 25,153      | 30,389      |
| Fuel oil on hand, November 1, 1921..... bbls..              | 65,156      | 47,778      | 112,934     |
| Fuel oil on hand, October 1, 1921..... bbls..               | 70,392      | 72,931      | 143,323     |
| Diesel oil issued during the month..... bbls..              | 191         |             | 191         |
| Diesel oil on hand, November 1, 1921..... bbls..            | 50,988      | 966         | 51,954      |
| Diesel oil on hand, October 1, 1921..... bbls..             | 51,179      | 966         | 52,145      |
| Oil pumped for individuals and companies..... bbls..        | 252,372     | 120,053     | 372,425     |
| Miscellaneous transfers..... bbls..                         | 3,680       | 2,967       | 6,647       |
| Total oil handled..... bbls..                               | 261,479     | 148,173     | 409,652     |
| Vessels furnished with commissary supplies:                 |             |             |             |
| Commercial, other than Panama Railroad.....                 | 72          | 40          | 112         |
| Panama Railroad.....                                        | 8           |             | 8           |
| United States Government.....                               | 9           | 9           | 18          |
| Totals.....                                                 | 89          | 49          | 138         |
| Commissary sales to commercial vessels:                     |             |             |             |
| Ice.....                                                    | \$1,220.41  | \$927.70    | \$2,148.11  |
| Wholesale groceries.....                                    | 2,998.16    | 593.09      | 3,591.25    |
| Wholesale cold storage.....                                 | 19,774.43   | 5,659.52    | 25,433.95   |
| Laundry.....                                                | 74.80       | 2,919.81    | 2,994.61    |
| Miscellaneous.....                                          | 903.27      | 228.19      | 1,131.46    |
| Totals.....                                                 | 24,971.07   | 10,328.31   | 35,299.38   |
| Commissary sales to Panama Railroad vessels:                |             |             |             |
| Ice.....                                                    | \$37.80     |             | \$37.80     |
| Wholesale groceries.....                                    | 1,507.70    |             | 1,507.70    |
| Wholesale cold storage.....                                 | 3,169.64    |             | 3,169.64    |
| Laundry.....                                                | 28.50       |             | 28.50       |
| Miscellaneous.....                                          | 334.21      |             | 334.21      |
| Totals.....                                                 | 5,077.85    |             | 5,077.85    |
| Commissary sales to United States Government vessels:       |             |             |             |
| Ice.....                                                    | \$161.12    | \$140.88    | \$302.00    |
| Wholesale groceries.....                                    | 600.00      | 2,672.50    | 3,272.50    |
| Wholesale cold storage.....                                 | 529.21      | 5,369.19    | 5,898.40    |
| Laundry.....                                                | 17.52       |             | 17.52       |
| Miscellaneous.....                                          | 280.60      | 72.90       | 353.50      |
| Totals.....                                                 | 1,588.45    | 8,255.47    | 9,843.92    |
| Total commissary sales to all vessels:                      |             |             |             |
| October, 1921.....                                          | \$31,637.37 | \$18,583.78 | \$50,221.15 |
| September, 1921.....                                        | 27,539.87   | 19,196.67   | 46,736.54   |
| October, 1920.....                                          | 132,225.58  | 44,334.69   | 176,560.27  |



|                                                                     | Cristobal. | Balboa. | Total. |
|---------------------------------------------------------------------|------------|---------|--------|
| Admeasurement certificates:                                         |            |         |        |
| United States equivalent issued or made.....                        | 41         | 2       | 43     |
| Measured for Panama Canal net tonnage.....                          | 23         | 11      | 34     |
| United States equivalent or Panama Canal net tonnage corrected..... | 34         | 17      | 51     |
| Services of harbor equipment:                                       |            |         |        |
| Tugs, total operating hours.....                                    | 470        | 542     | 1,012  |
| Launches, total operating hours.....                                | 1,218      | 1,216   | 2,434  |
| Vessels repaired at Panama Canal shops:                             |            |         |        |
| Commercial.....                                                     | 40         | 10      | 50     |
| United States Government.....                                       | 3          | 6       | 9      |
| Canal equipment.....                                                | 14         | 23      | 37     |
| Vessels dry-docked:                                                 |            |         |        |
| Commercial.....                                                     | 3          | 3       | 6      |
| United States Government.....                                       |            | 3       | 3      |
| Canal equipment.....                                                | 6          | 11      | 17     |
| Clearances issued.....                                              | 164        | 139     | 303    |
| Bills of health issued.....                                         | 160        | 140     | 300    |

## MOVEMENT OF PASSENGERS.

The number of passengers arriving at Canal Zone ports during the month of October, 1921, exceeded the number embarking for the first time in several months. From April 1, 1921, to September 30, 1921, the number of passengers embarking exceeded the number arriving by 4,492. For October, 1921, the number of arrivals exceeded the number of departures by 355, as shown in the following tabulation:

|                                      | At Cristobal. |                         |        | At Balboa.   |                         |        |
|--------------------------------------|---------------|-------------------------|--------|--------------|-------------------------|--------|
|                                      | First class.  | Other than first class. | Total. | First class. | Other than first class. | Total. |
| Disembarking:                        |               |                         |        |              |                         |        |
| From Atlantic ports.....             | 1,251         | 725                     | 1,976  | 9            |                         | 9      |
| From Pacific ports.....              | 134           | 63                      | 197    | 218          | 95                      | 313    |
| Total disembarking.....              | 1,385         | 788                     | 2,173  | 227          | 95                      | 322    |
| Embarking:                           |               |                         |        |              |                         |        |
| For Atlantic ports.....              | 880           | 749                     | 1,629  |              |                         |        |
| For Pacific ports.....               | 240           | 102                     | 342    | 75           | 94                      | 169    |
| Total embarking.....                 | 1,120         | 851                     | 1,971  | 75           | 94                      | 169    |
| Remaining on board vessels:          |               |                         |        |              |                         |        |
| From Atlantic to Pacific ports.....  | 566           | 583                     | 1,149  | 686          | 654                     | 1,340  |
| From Pacific to Atlantic ports.....  | 400           | 267                     | 667    | 540          | 324                     | 864    |
| From Atlantic to Atlantic ports..... | 234           | 251                     | 485    |              |                         |        |
| From Pacific to Pacific ports.....   |               |                         |        | 18           | 293                     | 311    |
| Total remaining on board.....        | 1,200         | 1,101                   | 2,301  | 1,244        | 1,271                   | 2,515  |
| Total passengers arriving.....       | 2,585         | 1,889                   | 4,474  | 1,471        | 1,366                   | 2,837  |
| Total passengers departing.....      | 2,320         | 1,952                   | 4,272  | 1,319        | 1,365                   | 2,684  |

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks and the consumption of water for lockages, for the month of October, 1921, as compared with that of the preceding month, and of the corresponding month of last year.

## NUMBER OF LOCKAGES.

|                                      | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|--------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                      | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                           | 119         | 127    | 246    | 8              | 9      | 17     | 263          |
| Pedro Miguel.....                    | 120         | 129    | 249    | 16             | 21     | 37     | 286          |
| Miraflores.....                      | 120         | 129    | 249    | 18             | 22     | 40     | 289          |
| Total lockages, October, 1921.....   | 359         | 385    | 744    | 42             | 52     | 94     | 838          |
| Total lockages, September, 1921..... | 274         | 371    | 645    | 37             | 33     | 70     | 715          |
| Total lockages, October, 1920.....   | 343         | 350    | 693    |                |        | 82     | 775          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                     | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|-------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                     | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                          | 129         | 133    | 267    | 20             | 20     | 40     | 307          |
| Pedro Miguel.....                   | 124         | 131    | 255    | 46             | 41     | 87     | 342          |
| Miraflores.....                     | 124         | 131    | 255    | 47             | 42     | 89     | 344          |
| Total vessels, October, 1921.....   | 377         | 400    | 777    | 113            | 103    | 216    | 993          |
| Total vessels, September, 1921..... | 276         | 384    | 660    | 89             | 100    | 189    | 849          |
| Total vessels, October, 1920.....   | 363         | 374    | 737    | .....          | .....  | 174    | 911          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                                  | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------------|--------|---------------|-------------|
| Army and Navy vessels.....       | 21     | 26            | 27          |
| Canal equipment.....             | 19     | 61            | 62          |
| Total noncommercial vessels..... | 40     | 87            | 89          |

The total consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                         | Gatun.             | Pedro Miguel.      | Miraflores.        |
|-----------------------------------------|--------------------|--------------------|--------------------|
|                                         | <i>Cubic feet.</i> | <i>Cubic feet.</i> | <i>Cubic feet.</i> |
| Lockages.....                           | 1,022,730,000      | 971,310,000        | 898,650,000        |
| Leakage.....                            | 20,000,000         | 18,300,000         | 67,000,000         |
| Maintenance.....                        | .....              | .....              | 2,830,000          |
| Total consumption, October, 1921.....   | 1,042,730,000      | 989,610,000        | 967,480,000        |
| Total consumption, September, 1921..... | 878,920,000        | 840,290,000        | 815,560,000        |
| Total consumption, October, 1920.....   | 1,099,600,000      | 913,550,000        | 861,330,000        |

## METEOROLOGY AND HYDROGRAPHY.

The rainfall for the month was generally above normal over the Pacific coast, approximately normal over the Chagres River valley, and below normal over Gatun Lake and the Atlantic coast, Porto Bello reporting the lowest October rainfall of 9 years' record, and Colon the lowest with one exception since 1904. The West Indian hurricane that swept over the Caribbean during the middle of the month was largely responsible for the existing weather conditions, strong southerly winds resulting from the nearness of this area of low barometer; this in turn caused excess of rainfall to the south of the Continental Divide and general deficiency on the northern or Atlantic slope. Rainfall totals ranged from 4.84 inches at Porto Bello to 21.74 inches at the Chilibrillo station. The greatest amount of rainfall recorded on any one day was 3.66 inches at Alhajuela on the 12th. The estimated rainfall over the Gatun Lake watershed area was 12.63 inches, compared with an 11-year mean of 15.85 inches; while over the Chagres River watershed above Alhajuela it was 14.73 inches, compared with a 20-year mean of 15.15 inches.

The discharge of the Chagres River at Alhajuela was 3,252 c. f. s., being 6 per cent below the 20-year mean of 3,452 c. f. s. The maximum discharge for the month of October of record was 5,135 c. f. s. in 1914, while the minimum October discharge of record was 2,031 c. f. s. in 1904. The maximum momentary discharge for the month was 18,600 c. f. s. at elevation 99.85 feet on the 19th.

The Gatun Lake watershed total yield for the month of October, 1921, was 10,517 c. f. s., being 12 per cent below the 11-year October mean of 11,991 c. f. s. The maximum total yield of record for October was 16,291 c. f. s. in 1920, and the minimum total yield was 7,868 c. f. s. in 1911. The net yield was 10,017 c. f. s., which is 13 per cent below the average October net yield of 11,484 c. f. s. The lake varied in elevation from 85.49 feet on the 1st to 86.80 feet on the 29th.

The draft on the lake for lockages and power was 2,261 c. f. s., compared with 2,182 c. f. s. for last month, and 2,305 c. f. s. for October, 1920. The ratio of water expended for power and lockages was 2 to 1. A total of 379 spillway gate-hours were necessary to control the lake during the month.

Gamboa pump station and Brazos Brook reservoir drew 37.9 and 54.6 million cubic feet, respectively, from the lake.

Miraflores Lake varied in elevation from 53.20 feet on the 14th to 54.90 feet on the 13th. Elevation 54.90 feet is the highest stage Miraflores Lake has reached since the opening of the Canal and was due to the inadvisability of operating the spillway and thereby causing troublesome currents during a period of unusually heavy traffic.

Temperature records for the month of October are given below:

|                     | Maximum. | Minimum. | Monthly mean. |
|---------------------|----------|----------|---------------|
| Balboa Heights..... | 89       | 70       | 79            |
| Gamboa.....         | 92       | 68       | 79            |
| Alhajuela.....      | 91       | 66       | 78            |
| Gatun.....          | 91       | 72       | 81            |
| Colon.....          | 92       | 73       | 81            |

The following gives a comparison of the monthly rainfall by sections for October, 1921, and October, 1920:

| Section.      | Rainfall.      |                | Rainy days. |       |
|---------------|----------------|----------------|-------------|-------|
|               | 1921.          | 1920.          | 1921.       | 1920. |
|               | <i>Inches.</i> | <i>Inches.</i> |             |       |
| Pacific.....  | 12.98          | 9.97           | 21          | 25    |
| Central.....  | 13.10          | 20.85          | 22          | 28    |
| Atlantic..... | 7.92           | 19.12          | 20          | 28    |

Five seismic tremors were recorded by the Balboa Heights seismographs during the month. All were comparatively small tremors with the exception of the disturbance on the morning of the 17th, which was generally felt through the Zone. The epicenter of this disturbance was of near-by origin, the seismogram indicating a distance of 70 miles. Recent information from near Pacora would seem to indicate that the disturbance was more violent in that neighborhood.

#### ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., is shown in comparative form, in the following tabulation:

|                                                                          | October, 1921. | September, 1921. | October, 1920. |
|--------------------------------------------------------------------------|----------------|------------------|----------------|
| Gross output, KWH:                                                       |                |                  |                |
| Gatun hydroelectric station.....                                         | 5,304,100      | 5,198,300        | 6,039,100      |
| Miraflores steam plant.....                                              | 1,190          | 1,970            | 233,640        |
| Combined gross output.....                                               | 5,305,290      | 5,200,270        | 6,272,740      |
| Water consumption..... cubic feet..                                      | 4,062,727,820  | 3,970,751,857    | 4,268,130,000  |
| Oil consumption..... barrels..                                           | 1,953          | 1,953            | 3,360          |
| Power distributed to consumers..... KWH..                                | 4,448,013      | 4,396,098        | 5,331,293      |
| Loss of power in plant auxiliaries, transmission and transformation..... | 857,277        | 804,172          | 941,447        |
| Per cent of loss of power to gross output.....                           | 16.15          | 15.50            | 15.00          |

New construction work covering (a) the installation of one 3-phase 44,000-6,600 volt, KVA transformer and new tie-line equipment at the Gatun substation, and (b) the installation of 2 complete feeder equipments at the Balboa substation were 95 per cent complete at the close of the month.

Miscellaneous electrical repairs and installations of electrical equipment were made on 17 vessels at Cristobal and 27 vessels at Balboa during the month. There were 365 work orders issued for work to be performed by the Electrical Division during the month of October, as compared with 374 for September.

#### SHOP, FOUNDRY, AND DRY-DOCK WORK.

The output of the Mechanical Division in patterns and castings for October, 1921, as compared with the preceding month, was as follows:

|            | October, 1921. |           |         | September, 1921. |           |         |
|------------|----------------|-----------|---------|------------------|-----------|---------|
|            | Patterns.      | Castings. | Pounds. | Patterns.        | Castings. | Pounds. |
| Iron.....  | 4              | 227       | 12,943  | 14               | 248       | 10,407  |
| Steel..... |                | 95        | 8,258   | 2                | 26        | 6,720   |
| Brass..... | 10             | 126       | 6,423   | 4                | 152       | 5,275   |

At the Balboa shops, miscellaneous repairs were made on 39 vessels, the more important of which were as follows:

Work on the reboiling and overhaul of the steamship *Panama* was brought very nearly to completion during the month. This work will be completed during November and will meet the contract date of completion and come well within the allotment of funds.

The nonmagnetic survey vessel *Carnegie* was docked, a new rudder stock fashioned and installed, and a new section of the outer stern shaft for her feathering propeller was made. The steamship *Republic* was docked and a new propeller fitted. The crank shaft was raised on the steamship *Argyll*, bearings remetaled and crank coupling bolts renewed. Boiler repairs were carried out on the steamship *Katrina Luckenbach*.

Routine docking and overhaul of submarines O-11, O-13, and O-14 was completed during the month, and docking and overhaul of the Dredging Division fleet was carried forward.

At the Cristobal shops, miscellaneous repairs were made on 57 vessels, the more important of which were as follows:

The hull of the dredge *Marmol* and the bottoms of barges Nos. 122 and 123 were cleaned, scaled, and painted. The anchor windlass on the steamship *Cristobal* was repaired, boiler scaled, and internal feed flanges in the starboard boilers were installed. The copper was removed from the bottom of the launch *Gloriana*, the hull calked, and the copper sheathing reinstalled; the deadwood, shaft log, and keel were repaired.

There were 26 vessels dry-docked during the month, 17 at Balboa and 9 at Cristobal.

Definite word was received during the month that for the present at least repairs would not be carried out on the steamship *Colon*. In adjusting the force it had been counted that the steamship *Colon* would immediately follow the steamship *Panama* for an overhaul similar to that undertaken on the latter vessel.

The prospects for work at present are such that without the steamship *Colon* a very large reduction is necessitated at the Balboa shops, and the scarcity of work at the Atlantic side has brought about a large reduction in force at the Mount Hope shops. In anticipation of the departure of the steamship *Panama*, reductions aggregating about 20 per cent of the force at the Balboa shops were made during the month of October.

Four hundred and fourteen job orders were completed during the month with 213 remaining uncompleted at the end of the month.

#### DREDGING DIVISION.

Cucaracha slide showed no general movement, but a slight surface movement has continued near the top and south end of this slide. No additional material has reached the Canal prism except the silt which came from this slide and settled west of the Canal axis opposite the slide area.

A slight movement occurred on the west side of the Canal opposite Division Office slide on the 14th of the month, causing about 7,000 cubic yards of rock to come into the Canal prism. On the 17th of the month Powder House slide again became active, causing about 12,500 cubic yards of material to come into the Canal prism.

No inconvenience to Canal traffic was caused by any of the above movements. The total excavation for October, including earth and rock, was 380,200 cubic yards, as follows:

| Cubic yards. | Classified as— |        | Character of work. | Stations                                                             | Equipment.       |
|--------------|----------------|--------|--------------------|----------------------------------------------------------------------|------------------|
|              | Earth.         | Rock.  |                    |                                                                      |                  |
| 45,400       | 9,100          | 36,300 | Maintenance.....   | <i>Gaillard Cut, East Culebra Slide</i><br>1746-00 to 1767-00 E.     | <i>Gamboa.</i>   |
| 7,000        | 500            | 6,500  | Maintenance.....   | <i>Gaillard Cut, Division Office Slide.</i><br>1697-50 to 1695-50 W. | <i>Gamboa.</i>   |
| 12,500       | 1,200          | 11,300 | Maintenance.....   | <i>Gaillard Cut, Powder House Slide.</i><br>1634-00 to 1636-50 E.    | <i>Gamboa.</i>   |
| 42,100       | 2,100          | 40,000 | Maintenance.....   | <i>Gaillard Cut, Cucaracha Slide.</i><br>1809-00 to 1812-00 E.       | <i>Gamboa.</i>   |
| 7,000        |                | 7,000  | Original.....      | <i>Pacific entrance.</i><br>2267-10 to 2274-00 W.                    | <i>Cascadas.</i> |
| 5,200        | 5,200          |        | Maintenance.....   | 2267-10 to 2274-00 W.                                                | <i>Cascadas.</i> |



| Cubic yards. | Classified as— |         | Character of work. | Stations.                 | Equipment. |
|--------------|----------------|---------|--------------------|---------------------------|------------|
|              | Earth          | Rock.   |                    |                           |            |
| 9,900        | 9,900          |         | Maintenance.....   | 2180-00 to 2219-00 E..... | Cascadas.  |
| 18,000       |                | 18,000  | Original.....      | 2180-00 to 2219-00 E..... | Cascadas.  |
| 11,000       | 11,000         |         | Maintenance.....   | 2121-50 to 2129-50 W..... | No. 86.    |
| 10,000       | 10,000         |         | Original.....      | 2188-50 to 2223-20 E..... | No. 86.    |
| 107,000      | 107,000        |         | Maintenance.....   | 2188-50 to 2223-20 E..... | No. 86.    |
| 27,800       | 27,800         |         | Maintenance.....   | 2179-50 to 2191-00 W..... | No. 84.    |
| 77,300       | 77,300         |         | Maintenance.....   | 2098-00 to 2119-00 W..... | No. 84.    |
| 380,200      | 261,100        | 119,100 |                    |                           |            |

The material excavated at the various stations was disposed of as follows:

|                                      | Cubic yards. |
|--------------------------------------|--------------|
| Dumped north of Gamboa.....          | 107,000      |
| Dumped on San Juan fill.....         | 144,800      |
| Dumped on flats west of Canal.....   | 88,300       |
| Dumped at sea, Pacific entrance..... | 40,100       |
| Total.....                           | 380,200      |

## MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations, and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form.

|                                    | October,<br>1921. | September,<br>1921. | October,<br>1920. |
|------------------------------------|-------------------|---------------------|-------------------|
|                                    | Gallons.          | Gallons.            | Gallons.          |
| Pumping stations.....              | 698,577,500       | 708,203,000         | 812,193,700       |
| Filtration plants.....             | 419,324,000       | 426,862,000         | 515,581,000       |
| Water consumed by Panama City..... | 94,136,000        | 91,415,000          | 83,808,000        |
| Water consumed by Colon.....       | 51,470,000        | 52,807,000          | 66,037,000        |
| Sales of water to vessels.....     | 10,181,372        | 9,992,132           | 12,627,357        |

Construction work, as itemized below, was under progress during the month, with completion on September 30 and October 31 as shown:

|                                                                  | Per cent completed. |          |
|------------------------------------------------------------------|---------------------|----------|
|                                                                  | Sept. 30.           | Oct. 31. |
| Construction of new concrete sea wall, Santo Tomas Hospital..... | 53                  | 95       |
| Extension of roads, Santo Tomas Hospital.....                    | 6                   | 8        |
| Concrete roof, low service reservoir.....                        | 98                  | 100      |
| Grading of Silver City, Mount Hope.....                          | 75                  | 85       |
| Storm sewer, Diablo Road, at lumber shed.....                    | 60                  | 86       |
| Foundation for statue of Balboa.....                             | 79                  | 79       |
| Extension of sewers, new Santo Tomas Hospital.....               | 35                  | 36       |
| Raising track at Pier No. 6, Cristobal.....                      |                     | 60       |
| Extension of sea wall, new Santo Tomas Hospital.....             |                     | 10       |

## OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, on October 31, were as follows:

|                              | Men.  | Women. | Children. | Total occupants.  |                     |                   |
|------------------------------|-------|--------|-----------|-------------------|---------------------|-------------------|
|                              |       |        |           | October,<br>1921. | September,<br>1921. | October,<br>1920. |
| Americans.....               | 2,693 | 2,051  | 2,276     | 7,020             | 7,056               | 8,240             |
| Europeans.....               | 132   | 39     | 90        | 261               | 258                 | 209               |
| West Indians.....            | 4,923 | 2,537  | 5,405     | 12,865            | 12,998              | 10,896            |
| Totals, October, 1921.....   | 7,748 | 4,627  | 7,771     | 20,146            |                     |                   |
| Totals, September, 1921..... | 7,962 | 4,668  | 7,682     |                   | 20,312              |                   |
| Totals, October, 1920.....   | 8,472 | 4,142  | 6,731     |                   |                     | 19,345            |

## WORKING FORCE—NUMBER OF EMPLOYEES.

The number of employees as of October 19, 1921, was 11,828, as compared with 19,039 on October 20, 1920, making the number of employees of The Panama Canal and the Panama Railroad Company approximately 62 per cent of the number a year ago.

The following tabulation shows the number of gold and silver employees as of October 19, 1921, by departments, together with a comparison of the working force for the preceding month, and that of October, 1920.

|                                      | Employees as of<br>October 19, 1921. |         | Total employees.  |                     |                   |
|--------------------------------------|--------------------------------------|---------|-------------------|---------------------|-------------------|
|                                      | Gold.                                | Silver. | October,<br>1921. | September,<br>1921. | October,<br>1920. |
| Operation and Maintenance:           |                                      |         |                   |                     |                   |
| Office.....                          | 29                                   | 33      | 62                | 60                  | 69                |
| Electrical.....                      | 162                                  | 154     | 316               | 324                 | 474               |
| Municipal Engineering.....           | 84                                   | 592     | 676               | 762                 | 1,122             |
| Lock Operation.....                  | 165                                  | 553     | 718               | 726                 | 715               |
| Dredging.....                        | 155                                  | 721     | 876               | 898                 | 1,337             |
| Mechanical.....                      | 571                                  | 805     | 1,376             | 1,565               | 3,007             |
| Marine.....                          | 170                                  | 383     | 553               | 581                 | 710               |
| Fortifications.....                  | 40                                   | 273     | 313               | 304                 | 563               |
| Totals.....                          | 1,376                                | 3,514   | 4,890             | 5,220               | 7,997             |
| Supply Department:                   |                                      |         |                   |                     |                   |
| Quartermaster.....                   | 180                                  | 1,162   | 1,342             | 1,345               | 2,641             |
| Subsistence.....                     | 23                                   | 239     | 262               | 265                 | 410               |
| Commissary.....                      | 187                                  | 1,008   | 1,195             | 1,266               | 1,755             |
| Cattle Industry—Plantations.....     | 16                                   | 165     | 181               | 145                 | 410               |
| Hotel Washington.....                | 8                                    | 81      | 89                | 99                  | 101               |
| Totals.....                          | 414                                  | 2,655   | 3,069             | 3,120               | 5,317             |
| Accounting Department.....           | 197                                  | 7       | 204               | 210                 | 262               |
| Health Department.....               | 235                                  | 745     | 980               | 1,003               | 1,073             |
| Executive.....                       | 538                                  | 249     | 787               | 745                 | 826               |
| Totals.....                          | 970                                  | 1,001   | 1,971             | 1,958               | 2,161             |
| Panama Railroad:                     |                                      |         |                   |                     |                   |
| Superintendent.....                  | 62                                   | 209     | 271               | 305                 | 576               |
| Transportation.....                  | 81                                   | 107     | 188               | 197                 | 281               |
| Receiving and Forwarding Agency..... | 66                                   | 847     | 913               | 1,063               | 1,844             |
| Coaling stations.....                | 92                                   | 434     | 526               | 512                 | 863               |
| Totals.....                          | 301                                  | 1,597   | 1,898             | 2,077               | 3,564             |
| Grand totals, October, 1921.....     | 3,061                                | 8,767   | 11,828            |                     |                   |
| Grand totals, September, 1921.....   | 3,127                                | 9,248   |                   | 12,375              |                   |
| Grand totals, October, 1920.....     | 4,217                                | 14,822  |                   |                     | 19,039            |

\* Includes employees of former Building Division.

## SCHOOLS.

The public schools of the Canal were opened on October 4, 1921, with an attendance on the opening day of 2,671. The average daily attendance for the month was 2,834.1, which is the highest in the history of the Canal Zone schools. There was a decrease from last year in the number of white children enrolled, but the colored schools showed an average increase in attendance of more than 200 over last year.

Owing to the status of the school allotment, needed repairs and alterations to buildings can not be made; free transportation to school children has been discontinued, and janitor service has been considerably reduced.

The following brief summary shows the enrollment, average attendance, etc., in both the white and colored schools;

|                                   | White.  | Colored. | Total.  |
|-----------------------------------|---------|----------|---------|
| Gross enrollment.....             | 1,692   | 1,453    | 3,145   |
| Net enrollment.....               | 1,680   | 1,441    | 3,121   |
| Average daily attendance.....     | 1,556.3 | 1,277.8  | 2,834.1 |
| Pupils not tardy nor absent.....  | 1,077   | 832      | 1,909   |
| Number of cases of tardiness..... | 249     |          | 249     |
| Number of teachers.....           | 79      | 32       | 111     |

## VITAL STATISTICS.

A total of 168 deaths occurred during the month of October, 1921, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 16.24 per thousand. The 3 leading causes of death were (a) tuberculosis, (b) pneumonia, and (c) diarrhea and enteritis; these 3 causes were responsible for 47 per cent of all deaths from disease. Among other causes of death listed were 3 from typhoid fever, 2 from malarial fever, and 1 each from diphtheria and measles. Of the total deaths, 72, or 43 per cent, occurred among children under 5 years of age. There were 10 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 364 live births reported during the month, and 19 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 37.01 per thousand population. Deaths among children under 1 year of age numbered 48, giving an infant mortality rate, based on the number of births reported for October, of 131.87 per thousand live births.

Eighty-six cases of malaria were reported during the month, of which 12 were employees and 74 nonemployees; of the nonemployees, 53 were soldiers. These malarial cases originated as follows: in Panama City, 4; in the Canal Zone, 50; and outside of the Canal Zone, 32.

Among other diseases reported during the month were 4 cases of typhoid fever, 4 of dysentery, 3 of smallpox, 1 of leprosy, 4 of scarlet fever, and 17 of diphtheria.

## RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses and cash sales from stock, are shown below in comparative form:

|                                                                                           | October,<br>1921. | September,<br>1921. | October,<br>1920. |
|-------------------------------------------------------------------------------------------|-------------------|---------------------|-------------------|
| Materials received on United States requisitions during the month, chargeable as follows: |                   |                     |                   |
| Operation and maintenance.....                                                            | \$98,337.89       | \$67,004.52         | \$715,261.01      |
| Construction and equipment.....                                                           |                   |                     | 4,615.78          |
| Miscellaneous.....                                                                        | 10,602.48         | 13,819.02           | 11,763.94         |
| Totals.....                                                                               | 108,940.37        | 80,823.54           | 731,640.73        |
| Cash sales on the Isthmus:                                                                |                   |                     |                   |
| Stock.....                                                                                | 21,942.32         | 27,105.54           | 40,001.16         |
| Fuel oil (including sales to ships).....                                                  | 669.17            | 108.88              | 72,785.25         |
| Scrap.....                                                                                | 1,275.21          | 400.01              | 787.01            |
| Obsolete and second-hand material.....                                                    | 4,439.78          | 828.31              | 9,611.62          |
| Totals.....                                                                               | 28,326.48         | 28,442.74           | 123,185.04        |
| Sales to steamships from storehouses:                                                     |                   |                     |                   |
| Miscellaneous stock items.....                                                            | 4,579.39          | 11,004.36           | 19,598.52         |
| Fuel oil.....                                                                             | 21.67             | 108.88              | 43,816.80         |
| Totals.....                                                                               | 4,601.06          | 11,113.24           | 63,415.30         |

Respectfully,

JAY J. MORROW,  
Governor.

## Heavy Commercial Traffic for One Day.

Eighteen merchant vessels, the British cruiser *Raleigh*, and a launch made the transit of the Canal on November 23, establishing what is thought to be a new high record for a day's commercial traffic. The cargo carried through aggregated 78,648 tons and the total of the tolls levied was \$79,808.50.

Omitting the launch, which paid \$2.25 in tolls, but is not an ocean-going vessel, the traffic from Atlantic to Pacific was 10 vessels, of 38,221 net tons, Panama Canal measurement, plus the 12,011 displacement tons of the cruiser, carrying 25,776 tons of cargo and paying \$44,722.75 in tolls. The movement from Pacific to Atlantic was 9 vessels, of 37,710 net tons, carrying 52,872 tons of cargo and paying \$35,081.25 in tolls.

## Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, October, 1921.\*

| From—                                            | NORTH AMERICA.             |                            |             |                          |              |                  |         |                          |                          |                | EUROPE.  |          |         |          |          |        |           |         |                      |                | Grand total. | Per cent of total cargo. |                                 |         |
|--------------------------------------------------|----------------------------|----------------------------|-------------|--------------------------|--------------|------------------|---------|--------------------------|--------------------------|----------------|----------|----------|---------|----------|----------|--------|-----------|---------|----------------------|----------------|--------------|--------------------------|---------------------------------|---------|
|                                                  | UNITED STATES.             |                            |             |                          |              |                  |         |                          |                          |                |          |          |         |          |          |        |           |         |                      |                |              |                          |                                 |         |
|                                                  | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports. | Total, United<br>States. | West Indies. | Cristobal, C. Z. | Mexico. | East coast of<br>Canada. | Total, North<br>America. | British Isles. | Belgium. | Denmark. | France. | Germany. | Holland. | Italy. | Portugal. | Sweden. | Europe. <sup>2</sup> | Total, Europe. |              |                          | East coast of<br>South America. | Africa. |
| <b>SOUTH AMERICA:</b>                            |                            |                            |             |                          |              |                  |         |                          |                          |                |          |          |         |          |          |        |           |         |                      |                |              |                          |                                 |         |
| Chile.....                                       | 18,405                     |                            |             | 18,405                   | 2,000        |                  |         |                          | 20,405                   | 25,347         | 583      |          | 5,522   | 3,325    | 695      |        |           |         | 6,029                | 41,501         | 9,500        | 71,406                   | 11.7                            |         |
| Colombia.....                                    | 732                        |                            |             | 732                      |              | 2,036            |         |                          | 2,768                    |                |          |          |         |          |          |        |           |         |                      |                | 30           | 2,768                    | 0.6                             |         |
| Ecuador.....                                     | 2,119                      |                            |             | 2,119                    |              | 1,553            |         |                          | 3,672                    |                |          |          |         |          |          |        |           |         |                      |                |              | 3,672                    | 0.6                             |         |
| Peru.....                                        | 2,919                      |                            |             | 2,919                    |              | 3,251            |         |                          | 6,170                    | 11,197         |          |          |         | 47       |          |        |           |         | 287                  | 11,531         |              | 17,701                   | 2.9                             |         |
| West coast of South America <sup>2</sup>         | 4,500                      |                            |             | 4,500                    |              | 5,749            |         |                          | 10,249                   | 458            |          |          |         | 2,672    | 2,672    |        |           |         | 8,983                | 14,785         |              | 25,034                   | 4.1                             |         |
| Total, South America.....                        | 28,675                     |                            |             | 28,675                   | 2,000        | 12,589           |         |                          | 43,264                   | 37,002         | 583      |          | 5,522   | 6,044    | 3,367    |        |           |         | 15,299               | 67,817         | 30,950       | 120,611                  | 19.7                            |         |
| <b>NORTH AMERICA:</b>                            |                            |                            |             |                          |              |                  |         |                          |                          |                |          |          |         |          |          |        |           |         |                      |                |              |                          |                                 |         |
| West coast of United States.....                 | 98,203                     | 2,096                      | 2,032       | 102,331                  | 2,306        | 664              | 5,154   |                          | 110,455                  | 129,885        | 2,323    | 7,523    | 3,590   | 12,336   | 3,713    | 6,587  | 7,656     | 72      | 88,378               | 262,063        |              | 372,518                  | 60.9                            |         |
| West coast of Canada.....                        | 6,959                      |                            |             | 6,959                    |              | 8                |         |                          | 7,196                    | 4,397          | 75       | 478      | 2,990   |          |          |        |           |         |                      | 7,462          |              | 14,658                   | 2.4                             |         |
| West coast of Central America.....               |                            |                            |             |                          |              | 1,458            |         |                          | 1,466                    |                |          |          |         |          |          |        |           |         |                      | 478            |              | 1,944                    | 0.3                             |         |
| Total, North America.....                        | 105,162                    | 2,096                      | 2,269       | 109,527                  | 2,314        | 2,122            | 5,154   |                          | 119,117                  | 134,282        | 2,398    | 8,001    | 6,580   | 12,336   | 3,713    | 6,587  | 7,656     | 72      | 88,378               | 270,003        |              | 389,120                  | 63.6                            |         |
| <b>ASIA:</b>                                     |                            |                            |             |                          |              |                  |         |                          |                          |                |          |          |         |          |          |        |           |         |                      |                |              |                          |                                 |         |
| China.....                                       | 13,114                     |                            |             | 13,114                   | 508          |                  |         |                          | 13,745                   | 1,505          |          | 2,514    |         |          |          |        |           |         |                      | 4,019          |              |                          | 17,764                          | 3.0     |
| Japan.....                                       | 814                        |                            |             | 814                      |              |                  |         |                          | 814                      |                |          | 6        |         |          |          |        |           |         |                      | 6              |              |                          | 820                             | 0.1     |
| Philippines.....                                 | 12,644                     |                            |             | 12,644                   |              |                  |         |                          | 12,644                   |                |          |          |         |          |          |        |           |         |                      |                |              |                          | 12,644                          | 2.0     |
| Far East <sup>2</sup> .....                      | 2,050                      |                            |             | 2,050                    | 251          |                  |         |                          | 2,301                    |                |          | 9,980    |         |          |          |        |           |         |                      |                |              |                          | 2,301                           | 0.4     |
| Malay Peninsula.....                             | 1,058                      |                            |             | 1,058                    |              |                  |         |                          | 1,058                    | 10,806         |          |          |         |          |          |        |           |         |                      | 20,786         |              |                          | 21,844                          | 3.6     |
| Total, Asia.....                                 | 29,680                     |                            |             | 29,680                   | 759          |                  |         |                          | 30,562                   | 12,311         |          | 12,500   |         |          |          |        |           |         |                      | 24,811         |              |                          | 55,373                          | 9.1     |
| <b>AUSTRALASIA:</b>                              |                            |                            |             |                          |              |                  |         |                          |                          |                |          |          |         |          |          |        |           |         |                      |                |              |                          |                                 |         |
| Australia.....                                   | 3,300                      |                            |             | 3,300                    |              |                  |         |                          | 3,300                    |                |          |          |         |          |          |        |           |         |                      |                |              |                          | 3,300                           | 0.6     |
| New Zealand.....                                 |                            |                            |             |                          |              |                  |         |                          | 19,248                   |                |          |          |         | 14,057   |          |        |           |         |                      | 19,248         |              |                          | 19,248                          | 3.1     |
| Australasia <sup>2</sup> .....                   |                            |                            |             |                          |              |                  |         |                          |                          |                |          |          |         | 14,057   |          |        |           |         |                      | 14,057         |              |                          | 14,057                          | 2.3     |
| Total, Australasia.....                          | 3,300                      |                            |             | 3,300                    |              |                  |         |                          | 3,300                    | 19,248         |          |          |         | 14,057   |          |        |           |         |                      | 33,305         |              |                          | 36,605                          | 6.9     |
| Hawaii.....                                      | 9,629                      |                            |             | 9,629                    |              |                  |         |                          | 9,629                    |                |          |          |         |          |          |        |           |         |                      |                |              |                          | 9,629                           | 1.6     |
| Grand totals.....                                | 176,446                    | 2,096                      | 2,269       | 180,811                  | 5,073        | 14,711           | 5,154   |                          | 230,572                  | 202,843        | 2,981    | 20,501   | 12,102  | 32,437   | 7,080    | 6,587  | 7,656     | 72      | 103,677              | 395,936        | 30,950       | 611,338                  | 100.0                           |         |
| Per cent of total cargo, Oc-<br>tober, 1921..... | 28.9                       | 0.3                        | 0.4         | 29.6                     | 0.8          | 2.4              | 0.8     | 0.1                      | 33.7                     | 33.2           | 0.5      | 3.4      | 2.0     | 5.3      | 1.1      | 1.0    | 1.2       |         | 17.0                 | 64.7           |              | 1.6                      | 100.0                           |         |
| Per cent of total cargo,<br>September, 1921..... | 29.8                       | 1.6                        | 0.7         | 32.1                     | 1.1          | 2.6              |         |                          | 35.8                     | 37.3           | 3.8      | 1.3      | 1.5     | 1.8      | 0.7      | 1.1    |           |         | 14.1                 | 64.1           |              | 0.1                      |                                 |         |
| Per cent of total cargo, Oc-<br>tober, 1920..... | 21.4                       | 12.5                       | 4.5         | 38.4                     | 1.4          | 4.6              |         |                          | 45.6                     | 36.2           |          | 0.5      | 3.1     | 2.6      | 2.0      | 1.1    |           |         |                      | 51.6           |              |                          |                                 |         |

\* Figures represent tons of 2,240 pounds.

\* General cargo not routed so as to allow segregation between definite ports.



Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, October, 1921.\*

| Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, 1921 |                |           |          |       |                                    |                              |         |                                |                       |         |        |              |                        |                  |              |              |              |                           |                     |               |                         |         |         |       |
|-----------------------------------------------------------------------------------------------|----------------|-----------|----------|-------|------------------------------------|------------------------------|---------|--------------------------------|-----------------------|---------|--------|--------------|------------------------|------------------|--------------|--------------|--------------|---------------------------|---------------------|---------------|-------------------------|---------|---------|-------|
| From—                                                                                         | SOUTH AMERICA. |           |          |       |                                    | NORTH AMERICA.               |         |                                |                       |         | ASIA.  |              |                        |                  |              | AUSTRALASIA. |              |                           |                     | Grand totals. | Per cent of total cargo |         |         |       |
|                                                                                               | Chile.         | Colombia. | Ecuador. | Peru. | Total, South America. <sup>1</sup> | West coast of United States. | Canada. | West coast of Central America. | Total, North America. | China.  | Japan. | Philippines. | Far East. <sup>2</sup> | Malay Peninsula. | Total, Asia. | Australia.   | New Zealand. | Australasia. <sup>2</sup> | Total, Australasia. |               |                         | Hawaii. |         |       |
|                                                                                               |                |           |          |       |                                    |                              |         |                                |                       |         |        |              |                        |                  |              |              |              |                           |                     |               |                         |         |         |       |
| UNITED STATES:                                                                                |                |           |          |       |                                    |                              |         |                                |                       |         |        |              |                        |                  |              |              |              |                           |                     |               |                         |         |         |       |
| North Atlantic ports                                                                          | 2,292          | 416       | 802      | 1,691 | 4,307                              | 9,508                        | 76,381  | 302                            | 700                   | 77,383  | 27,303 | 38,137       | 1,529                  | 7,753            | 710          | 75,422       |              | 4,830                     | 7,023               | 11,853        | 476                     | 174,652 | 46.7    |       |
| South Atlantic ports                                                                          |                |           |          |       |                                    |                              | 1,100   |                                |                       | 1,100   | 2,459  | 11,352       |                        |                  |              | 13,811       |              | 100                       | 410                 | 510           | 15,421                  | 4.1     |         |       |
| Gulf ports                                                                                    | 832            |           |          |       |                                    | 832                          | 12,301  |                                |                       | 12,301  | 3,885  | 30,396       |                        |                  |              | 34,281       |              | 5,400                     |                     | 5,400         | 52,814                  | 14.1    |         |       |
| Total, United States                                                                          | 3,124          | 416       | 802      | 1,691 | 4,307                              | 10,340                       | 89,782  | 302                            | 700                   | 90,784  | 33,647 | 79,885       | 1,529                  | 7,753            | 710          | 123,524      |              | 4,930                     | 7,433               | 17,763        | 476                     | 242,887 | 64.9    |       |
| East coast of Mexico.                                                                         | 14,000         |           |          |       |                                    | 14,000                       | 3,000   | 15,000                         | 4,800                 | 22,800  |        | 8,949        |                        |                  |              | 8,949        |              |                           |                     |               |                         | 45,809  | 12.2    |       |
| Atlantic terminus, Cristobal, C. Z.                                                           | 462            | 646       | 764      | 309   | 1,693                              | 3,084                        | 731     |                                | 2,795                 | 3,526   |        |              |                        |                  |              |              | 45           | 2,233                     | 1,120               | 3,398         |                         | 6,610   | 1.7     |       |
| East coast of Canada                                                                          |                |           |          |       |                                    |                              |         |                                |                       |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 3,398   | 0.9     |       |
| Total, North America                                                                          | 17,586         | 1,062     | 866      | 2,000 | 5,910                              | 27,424                       | 93,513  | 15,302                         | 8,355                 | 117,170 | 33,647 | 88,834       | 1,529                  | 7,753            | 710          | 132,473      |              | 7,163                     | 8,553               | 21,161        | 476                     | 298,704 | 79.7    |       |
| EUROPE:                                                                                       |                |           |          |       |                                    |                              |         |                                |                       |         |        |              |                        |                  |              |              |              |                           |                     |               |                         |         |         |       |
| Belgium                                                                                       | 231            |           |          | 783   |                                    | 1,014                        | 9,081   | 516                            | 9,597                 |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 10,611  | 2.9     |       |
| British Isles                                                                                 | 2,322          |           |          | 3,415 | 2,013                              | 7,750                        | 5,910   | 434                            | 6,344                 |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 49,100  | 13.2    |       |
| Denmark                                                                                       | 888            |           |          | 700   |                                    | 1,588                        |         |                                |                       |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 1,588   | 0.4     |       |
| France                                                                                        | 31             |           |          | 60    | 73                                 | 164                          | 39      | 88                             | 127                   |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 591     | 0.1     |       |
| Germany                                                                                       | 1,278          |           |          | 45    | 836                                | 2,159                        | 513     |                                | 513                   |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 2,672   | 0.7     |       |
| Holland                                                                                       | 183            |           |          |       |                                    | 183                          |         |                                |                       |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 1,183   | 0.3     |       |
| Sweden                                                                                        |                |           |          | 400   |                                    | 400                          | 606     |                                | 606                   |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 1,006   | 0.3     |       |
| Europe <sup>2</sup>                                                                           |                |           |          | 249   |                                    | 249                          | 4,420   |                                | 4,420                 |         |        |              |                        |                  |              |              |              |                           |                     |               |                         | 4,669   | 1.2     |       |
| Total Europe                                                                                  | 4,933          |           | 105      | 5,371 | 3,098                              | 13,507                       | 20,569  | 950                            | 88                    | 21,607  |        |              |                        |                  |              |              |              |                           |                     |               |                         | 70,420  | 18.9    |       |
| East coast of South America                                                                   |                |           |          |       |                                    |                              |         |                                |                       |         |        |              |                        |                  |              |              |              |                           |                     |               |                         |         |         |       |
| Grand totals                                                                                  | 22,519         | 1,065     | 971      | 7,371 | 9,008                              | 40,964                       | 119,102 | 16,347                         | 8,443                 | 143,892 | 33,647 | 88,999       | 1,529                  | 7,753            | 710          | 132,638      |              | 10,263                    | 37,071              | 9,133         | 56,467                  | 476     | 374,437 | 100.0 |
| Per cent of total cargo, October, 1921                                                        | 6.1            | 0.3       | 0.2      | 1.9   | 2.4                                | 10.9                         | 31.8    | 4.4                            | 2.2                   | 38.4    | 9.0    | 23.8         | 0.4                    | 2.1              | 0.2          | 35.5         | 2.7          | 9.9                       | 2.5                 | 15.1          | 0.1                     | 100.0   |         |       |
| Per cent of total cargo, September, 1921                                                      | 4.0            | 0.4       | 0.1      | 1.3   | 4.8                                | 10.6                         | 28.8    | 1.9                            | 1.2                   | 35.9    | 7.0    | 19.9         | 1.5                    | 10.1             |              | 38.5         | 1.8          | 1.7                       | 10.7                | 14.2          | 0.8                     |         |         |       |
| Per cent of total cargo, October, 1920                                                        | 31.6           | 1.1       | 0.5      | 3.0   | 2.6                                | 38.8                         | 12.2    | 0.7                            | 0.3                   | 15.4    | 10.0   | 3.2          | 0.5                    | 12.0             |              | 25.7         | 9.1          | 8.5                       | 2.5                 | 20.1          |                         |         |         |       |

\* General cargo not routed so as to allow segregation between definite ports.

\* Figures represent tons of 2,240 pounds.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, November 26, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                      | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.      | Length.                          | Beam. | Salt water draft. | From— | For—         | Cargo.        |                     | Panama Canal tonnage. |        |       |
|----------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------|----------------------------------|-------|-------------------|-------|--------------|---------------|---------------------|-----------------------|--------|-------|
|                            | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |            |                                  |       |                   |       |              | Nature.       | Tons.               | Gross.                | Net.   |       |
| Acajutla                   | 11               | 16    | 39             | 20    | 6                  | 10    | 20               | 13    | 33           | British    | Pacific Steam Navigation Co.     | 215.0 | 33.0              | 14.4  | Cristobal    | Champerico.   | General             | 471                   | 1,273  | 706   |
| Manavi                     | 15               | 16    | 27             | 20    | 6                  | 10    | 20               | 13    | 35           | British    | Pacific Steam Navigation Co.     | 216.0 | 35.1              | 11.7  | Cristobal    | Guayaquil     | General             | 226                   | 1,357  | 884   |
| South American             | 19               | 17    | 05             | 20    | 7                  | 10    | 20               | 14    | 30           | British    | South American Steamship Co.     | 251.0 | 43.6              | 20.4  | New York     | Valparaiso    | Gen., coke, oal.    | 2,690                 | 2,444  | 1,593 |
| Middleham                  | 19               | 16    | 40             | 20    | 10                 | 45    | 20               | 17    | 17           | British    | Lancashire Shipping Co.          | 380.0 | 50.0              | 14.0  | Galveston    | Callao        | Ballast.            |                       | 5,028  | 3,798 |
| Castle                     | 20               | 15    | 25             | 21    | 6                  | 23    | 21               | 14    | 07           | American   | United States Navy               | 308.0 | 44.5              | 17.6  | Key West.    | Balboa        | General             |                       |        |       |
| Galveston <sup>1</sup> .   | 19               | 16    | 40             | 20    | 6                  | 23    | 21               | 14    | 07           | American   | United States Steel Products Co. | 424.2 | 56.0              | 25.6  | Cristobal    | San Diego.    | New York            | 5,705                 | 7,539  | 5,495 |
| Steel Worker.              | 18               | 3     | 25             | 21    | 7                  | 08    | 21               | 15    | 05           | American.  | United States Army               |       |                   |       | Cristobal    | Gatun         | General             |                       |        |       |
| Commodore <sup>2</sup> .   | 21               | 9     | 00             |       |                    |       |                  |       |              | American.  |                                  |       |                   |       |              |               |                     |                       |        |       |
| Pedro Chris-               | 21               | 23    | 38             | 22    | 6                  | 45    | 22               | 13    | 36           | Swedish    | Johnson Steamship Line           | 362.0 | 51.3              | 15.3  | Helsingfors. | San Francisco | Paper, pulp, gen.   | 1,753                 | 5,281  | 4,013 |
| tophersen                  | 22               | 9     | 46             | 22    | 10                 | 15    | 22               | 18    | 05           | Japanese.  | Teikoku Kisen Co.                | 425.0 | 53.0              | 16.0  | Cardiff      | Astoria       | Ballast.            |                       | 7,164  | 5,430 |
| Ypres Maru.                | 22               | 7     | 10             | 22    | 10                 | 35    | 22               | 18    | 56           | Japanese.  | Nippon Yusen Kaisha              | 410.0 | 58.0              | 24.8  | New York     | Moli          | General, cotton.    | 6,839                 | 7,596  | 5,456 |
| Takeoyo Maru               | 18               | 24    | 00             | 22    | 11                 | 43    | 22               | 19    | 41           | American   | Olsen Steamship Co.              | 225.0 | 43.0              | 15.0  | Havre        | San Francisco | Ballast.            |                       | 1,694  | 928   |
| Yolande                    | 22               | 14    | 31             | 23    | 6                  | 30    | 23               | 14    | 25           | American   | Williams Steamship Co.           | 381.0 | 52.0              | 23.7  | New York     | Los Angeles   | General             | 5,232                 | 5,680  | 4,162 |
| Willfar                    | 18               | 15    | 06             | 23    | 7                  | 20    | 23               | 16    | 02           | Chilean    | South American Steamship Co.     | 350.0 | 41.2              | 22.8  | Cristobal    | Valparaiso    | General             | 626                   | 3,666  | 2,577 |
| Palena                     | 22               | 13    | 00             | 23    | 7                  | 37    | 23               | 16    | 06           | Norwegian. | P. Jøllansen                     | 265.0 | 37.0              | 12.0  | Cartagena    | Buenaventura  | General             | 50                    | 1,851  | 1,177 |
| Anna                       | 22               | 7     | 24             | 23    | 8                  | 09    | 23               | 16    | 31           | French     | French Steamship Line            | 397.0 | 50.0              | 18.0  | Havre        | Talcahuano    | General             | 215                   | 5,849  | 4,081 |
| Saint Jean                 | 22               | 15    | 46             | 23    | 8                  | 52    | 23               | 17    | 35           | American   | W. B. Grace & Co.                | 360.2 | 51.6              | 22.6  | New York     | Talcahuano    | General             | 2,304                 | 5,726  | 4,086 |
| Santa Teresa.              | 22               | 22    | 17             | 23    | 9                  | 09    | 23               | 18    | 03           | British    | New Zealand Shipping Co.         | 400.0 | 58.2              | 25.4  | London.      | Auckland      | General             | 5,438                 | 9,057  | 6,438 |
| Kaikoura                   | 22               | 23    | 17             | 23    | 10                 | 23    | 23               | 18    | 51           | American   | Ad. Gulf. & Pac. Co. (S. B.).    | 140.0 | 65.0              | 20.8  | Baltimore.   | Seattle       | General             | 6,400                 | 8,199  | 6,250 |
| Liberator <sup>3</sup> .   | 23               | 6     | 20             | 23    | 10                 | 57    | 23               | 20    | 03           | British    | British Navy                     | 605.0 | 65.0              | 20.8  | Kiunston     | Vancouver     | Ballast.            |                       | 5,926  | 4,398 |
| Raleigh <sup>4</sup> .     | 23               | 5     | 58             | 23    | 11                 | 45    | 23               | 20    | 36           | Japanese.  | Kawasaki Kisen Co.               | 385.0 | 51.0              | 14.0  | Barry        | Portland.     | Coal                | 5,011                 | 6,617  | 5,050 |
| Sweden Maru                | 22               | 17    | 15             | 23    | 11                 | 55    | 23               | 21    | 00           | Norwegian. | B. Stolt Nielsen                 | 409.0 | 53.0              | 23.2  | Cardiff      | San Francisco | General             | 308                   | 1,484  | 916   |
| Louise Nielsen.            | 22               | 17    | 15             | 23    | 11                 | 55    | 23               | 21    | 00           | British    | Cayzer Irvine & Co.              | 235.0 | 35.0              | 16.3  | St. Thomas   | Salina Cruz   | General             | 2,697                 | 7,150  | 4,913 |
| Chihuahua                  | 23               | 8     | 20             | 24    | 9                  | 25    | 24               | 14    | 00           | American   | United American Line             | 407.0 | 53.0              | 20.2  | Boston       | Los Angeles   | General             | 2,502                 | 4,064  | 3,037 |
| Minnesota                  | 24               | 8     | 20             | 24    | 9                  | 25    | 24               | 15    | 24           | British    | Reginald North Turnbull.         | 351.5 | 43.2              | 21.0  | Port Talbot. | Valparaiso.   | Coal                | 8,402                 | 8,946  | 6,145 |
| Southgate.                 | 24               | 10    | 27             | 24    | 10                 | 50    | 24               | 18    | 05           | British    | Hain Steamship Co.               | 475.6 | 60.0              | 26.0  | Cardiff      | Auckland      | General             | 272                   | 4,768  | 2,956 |
| Tromore.                   | 24               | 11    | 30             | 25    | 11                 | 45    | 24               | 19    | 27           | British    | Pacific Steam Navigation Co.     | 362.0 | 46.0              | 18.6  | New York     | Guayaquil     | General             | 15,289                | 10,532 | 7,856 |
| Quilota                    | 24               | 1     | 10             | 25    | 6                  | 15    | 25               | 13    | 35           | British    | Pacific Steamship Co. (S. B.).   | 516.5 | 72.2              | 25.6  | Philadelphia | Seattle       | Ballast             |                       | 6,358  | 4,861 |
| Bay State.                 | 25               | 7     | 10             | 25    | 7                  | 45    | 25               | 16    | 21           | American   | St. Just Steamship Co. (S. B.).  | 419.7 | 53.8              | 26.6  | Port Arthur. | Yokohama.     | Case oil.           | 6,500                 | 7,320  | 5,487 |
| Royal City.                | 25               | 12    | 50             | 25    | 9                  | 06    | 25               | 17    | 25           | British.   | St. Just Steamship Co.           | 419.7 | 53.8              | 26.6  | New York     | Yokohama.     | Cotton, steel, etc. | 8,212                 | 7,720  | 5,497 |
| Lyons Maru.                | 25               | 7     | 20             | 25    | 11                 | 25    | 25               | 19    | 00           | Japanese.  | Nippon Yusen Kabushiki Kaisha    | 445.0 | 58.0              | 25.11 | New York     | Balboa        | Ballast.            |                       |        | 3     |
| Mary Eileen <sup>5</sup> . | 25               | 7     | 20             | 25    | 23                 | 19    | 00               |       |              | American.  | William F. Collins.              | 26.7  | 7.7               | 3.5   | Gatun Lake.  |               |                     |                       |        |       |
| Walter A.                  | 25               | 21    | 23             | 26    | 6                  | 14    | 26               | 14    | 10           | American.  | Luckenbach Line                  | 446.5 | 56.1              | 19.6  | New York     | San Diego.    | General             | 2,154                 | 8,785  | 6,582 |
| Lukenbach.                 | 23               | 17    | 32             | 26    | 7                  | 45    | 26               | 14    | 54           | American.  | Comban Maritime Co.              | 100.0 | 29.0              | 11.2  | Cristobal    | Buenaventura. | Ballast             |                       | 741    | 350   |
| Balboa                     | 24               | 17    | 32             | 26    | 20                 | 8     | 17               |       |              | Panaman.   | A. R. Ehardt.                    | 31.4  | 8.0               | 7.0   | Cristobal.   | Gatun Lake.   |                     |                       | 10     | 8     |
| Rio Gatun <sup>6</sup> .   | 24               |       |                |       |                    |       |                  |       |              |            |                                  |       |                   |       |              |               |                     |                       |        |       |

\* Cruiser.

\* Launch.





**Predicted Lumber Shipments.**

The *West Coast Lumberman* for November 15, 1921, commenting on the proposed reduction of the transcontinental freight rate on lumber predicts that shipments by water will continue to increase. According to an announcement of the West Coast Lumbermen's Association the steamship lines, which prior to the increase of railroad freight rates a little more than 1 year ago handled less than 1,500,000 feet of lumber through the Panama Canal in 6 months' time, will wind up the current year with intercoastal deliveries amounting to over 175,000,000 feet, and by spring indications are that these steamship lines will have to add sufficient tonnage to take care of 50,000,000 feet a month from the Oregon and Washington mills to north Atlantic markets. When shipments by water were started on a large scale the trade was handicapped by lack of handling facilities on the Atlantic coast, but during the past year terminal improvements have been made in Baltimore, New York, and Boston, and other projects are now under way, which will render material aid to the Pacific northwest lumber industry in permanently establishing its products in Atlantic coast markets.

A tabulated comparison of the proposed reduced railroad freight rates with the present ocean freight rates on various grades of lumber shows that the latter are lower by \$4 to \$12 per thousand feet.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending November 26, 1921.**

| Name of vessel.    | Line or charterer.                  | Arrived.     | Departed.    | Cargo—           |                  |
|--------------------|-------------------------------------|--------------|--------------|------------------|------------------|
|                    |                                     |              |              | Discharged       | Laded.           |
|                    |                                     |              |              | <i>Tons.</i>     | <i>Tons.</i>     |
| Acajutla.....      | Pacific Steam Navigation Co.....    |              | November 20. |                  | 472              |
| Manavi.....        | Pacific Steam Navigation Co.....    |              | November 20. |                  | 226              |
| Atenas.....        | United Fruit Co.....                | November 20. | November 20. | ( <sup>1</sup> ) | 28               |
| Oranian.....       | Leyland Line.....                   |              | November 22. |                  | 300              |
| Granfos.....       | Caribbean Steamship Line.....       | November 20. | November 22. | 1                | ( <sup>3</sup> ) |
| Allianca.....      | Panama Railroad Steamship Line..... | November 20. | November 26. | 1,130            | 1,008            |
| Ebro.....          | Pacific Steam Navigation Co.....    | November 21. | November 22. | ( <sup>1</sup> ) | 149              |
| Zacapa.....        | United Fruit Co.....                | November 21. | November 24. | 998              | 225              |
| Anna.....          | Caribbean Steamship Line.....       | November 22. | November 23. | 290              | ( <sup>1</sup> ) |
| Saint Jean.....    | French Line.....                    | November 22. | November 23. | 21               | ( <sup>3</sup> ) |
| Quilpue.....       | Pacific Steam Navigation Co.....    | November 22. | November 23. | 247              | ( <sup>3</sup> ) |
| Palena.....        | Chilean Line.....                   |              | November 23. |                  | 619              |
| Pastores.....      | United Fruit Co.....                | November 22. | November 23. | 123              | 154              |
| Cristobal.....     | Panama Railroad Steamship Line..... | November 22. |              | 9,681            |                  |
| San Blas.....      | United Fruit Co.....                | November 22. | November 24. | 12               | 497              |
| Caribbean.....     | Panama Railroad Steamship Line..... | November 22. | November 26. | 720              | 28               |
| Atenas.....        | United Fruit Co.....                | November 23. | November 23. | ( <sup>1</sup> ) | 179              |
| Balboa.....        | Colombian Maritime Co.....          | November 23. | November 26. | 610              | ( <sup>3</sup> ) |
| Quillota.....      | Pacific Steam Navigation Co.....    | November 24. | November 25. | 111              | 34               |
| Cardiganshire..... | Pacific Steam Navigation Co.....    | November 24. | November 25. | ( <sup>1</sup> ) | 32               |
| Urubamba.....      | Peruvian Line.....                  | November 24. |              | 2,418            |                  |
| Puerto Rico.....   | French Line.....                    | November 24. | November 26. | 16               | 253              |
| Coronado.....      | Elders & Fyffes, Ltd.....           | November 26. | November 26. | 22½              | ½                |
| Barima.....        | Pacific Steam Navigation Co.....    | November 26. |              | 66               |                  |

<sup>1</sup> No cargo discharged.

<sup>2</sup> Pounds.

<sup>3</sup> No cargo laded.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending November 26, 1921.**

| Name of vessel.           | Line or charterer.               | Arrived.     | Departed.    | Cargo—       |              |
|---------------------------|----------------------------------|--------------|--------------|--------------|--------------|
|                           |                                  |              |              | Discharged   | Laded.       |
|                           |                                  |              |              | <i>Tons.</i> | <i>Tons.</i> |
| Quilpue.....              | Pacific Steam Navigation Co..... | November 21. | November 22. | 3            |              |
| Pedro Christopherson..... | Johnson Line.....                | November 21. | November 22. | 55           |              |
| Quillota.....             | Pacific Steam Navigation Co..... | November 24. | November 25. | 73           | 7            |
| Barima.....               | Pacific Steam Navigation Co..... | November 26. | November 26. | 1            |              |



### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the week ended November 26:

Motor ship *Chiralite*, calk and pitch deck; repair deck below and around funnel; install galley range; manufacture and install smoke pipe from range to funnel; dredge *Cascadas*, crane service to remove broken saddle block and install good order block; repair stern spud; repair saddle block; launches *No. 405*, remove present engine bed and install new bed suitable for speedway engine; install new shaft log and piece out keel to take tube and shaft, 2" in diameter; manufacture and install stern castings, bronze; manufacture new rudder and install new rudderpost to suit new location of propeller, patch all copper in connection with repairs; *Aspinwall*, renew after end of keel, repair sternpost; replace all stern castings; repair copper in wake of repairs.

#### PREVIOUSLY REPORTED.

Steamship *Panama*, reboiling and general repairs to machinery and hull; barges *No. 1*, dock, scale, and paint; light repairs; *No. 148*, dock, scale, and paint; light repairs; compressor barge *No. 27*, dock, scale, and paint; light repairs; launch *Pacific*, general repairs to hull; crane boat *La Valley*, heavy hull repairs; barges *No. 136*, dock, scale and paint bottom; heavy hull and strongback repairs; *No. 133*, dock, scale, and paint bottom; heavy hull and strongback repairs.

The following vessels were at the Cristobal shops for repairs during the week ended November 28:

Schooner *C. D. Bryant*, dry-dock for inspection; steamships *Cristobal*, renew section of galley pipe; supply brass for plungers in feed pump, etc.; *Puerto Rico*, repair beam pump; *Caribbean*, repair brake hand screw on windlass; repair fire line; renew 2 staybolt nuts and washers in forward boilers, etc.; *Balboa*, repair steering gear; tug *Porto Bello*, remove flywheel of dynamo; true up keys and eccentric sheave; barges *Nos. 15 and 18*, scale and paint bottom; steamship *General G. W. Goethals*, manufacture H. P. piston rings and skim up grooves in bull ring to suit; *General W. C. Gorgas*, braze steam heating line; burn 3 airport holes in shell plating; get out parts for gangway.

#### PREVIOUSLY REPORTED.

U. S. S. *O-12*, renew all rivets in engine foundations; overhaul all sea valves; overhaul steering and diving gear, etc.; launch *Gloriana*, repair hull and keel; renew awnings; overhaul engine, etc.; steamships *Allianca*, clean boilers; *Ampal*, manufacture, fit, and install new rudder; install asbestos lining on boilers; renew tubes in boilers, etc.

### Official Circulars.

#### Duties of Engineer of Maintenance.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., November 22, 1921.

CIRCULAR NO. 660-57.

1. In order to carry out the policy, directed by the Secretary of War in his letter of October 18, 1921, that the Engineer of Maintenance shall perform duties in the Canal Zone analogous to those of an Executive Officer, the Engineer of Maintenance has been relieved of practically all direct charge of divisions and hereafter his duties and status shall be as below set forth. The Superintendent of Dredging will continue, as heretofore, to report to the Engineer of Maintenance.

2. The Engineer of Maintenance is the direct representative of the Governor for securing economy and efficiency in the management of the governmental functions and business operations of The Panama Canal and Panama Railroad on the Isthmus. All matters involving (1) new expenditures for construction, operation, maintenance, government or sanitation, (2) proposed increases in force or established rates of pay and (3) all work requests and requisitions for material to be purchased, will be submitted to him for action.

3. He is authorized and directed to make studies in matters of organization, new projects, pruning out of nonessential operations, reports of expenditures, and other allied matters, with the object of increasing the economy and efficiency of our work. It shall be the duty of the Engineer of Maintenance from time to time to visit the various activities of the Canal and personally observe the operations therein, and those in charge will afford him every facility for this purpose.

4. One of the principal duties of the Engineer of Maintenance will be the coordination of the work of the various divisions. In order that he may do this, all matters which affect more than one division or department must be taken up with the Engineer of Maintenance before being presented to the Governor. This does not prevent a division or department head from taking up direct with the Governor any matter which affects only his own division or department.

5. The Engineer of Maintenance is authorized to give orders to heads of divisions and departments in the name of the Governor, and such orders will be accepted and obeyed as emanating from the Governor. If requested to do so, the Engineer of Maintenance will in all cases give such orders in writing, signed "By order of the Governor."

6. In order that the Engineer of Maintenance may be at all times conversant with the policy



# THE PANAMA CANAL RECORD

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Volume XV. Balboa Heights, C. Z., December 7, 1921. No. 17.

## Passenger Lists.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., December 1, 1921.

CIRCULAR No. 679-10:

Effective January 1, 1922, Circular No. 679-3, requiring passenger lists from vessels arriving at or departing from Canal Zone ports, or passing through the Canal Zone, is modified as follows:

1. Lists of passengers landing at or departing from the Canal Zone are required on Panama Canal forms, supplies of which may be procured from this office or The Panama Canal, Washington, D. C. Two copies of each list will be required.
2. Lists of incoming passengers shall be delivered to the Boarding Officer on arrival and outgoing lists shall be delivered to the Customs Office before obtaining clearance. However, with the consent of the Bureau of Customs previously obtained, outgoing lists may be furnished through an agency on the Isthmus within 48 hours after clearance of the vessel.
3. Lists of incoming transit passengers continuing in the vessel in which they arrive, through the Canal or a Canal port are required in duplicate, showing simply the names and numbers.
4. Nothing in this notice shall be construed as changing the requirements now in effect regarding information to be furnished regarding prohibited aliens.
5. Paragraphs 8 and 15 of Circular No. 679, revised, are amended accordingly.

JAY J. MORROW,  
*Governor.*

## Trips Through the Canal.

To accommodate visitors and residents on the Isthmus who wish to make the trip through the Canal, the following lines operating passenger vessels through the Canal are accepting passengers from Cristobal to Balboa, or Balboa to Cristobal, at the rate of \$10 per adult passenger for first-class transportation, including meals served aboard ship during the time of transit:

Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line), Pacific Mail Steamship Company. (The Pacific Mail's rate for the trip is \$6.)

The Pacific Steam Navigation Company has approximately 2 passenger ships through the Canal each way per week, and the other lines mentioned have 1 sailing each way, approximately, every week. Dates of sailing are advertised on the Isthmus, or may be obtained by telephone from the offices of the companies. All of these lines have offices at both ends of the Canal.

## Income Tax Receipts Not Required in Connection With Transportation.

The Commissioner of Internal Revenue in the United States has made a decision that American citizens departing from the United States will not be required to present income tax clearance papers.

This information is published for the benefit of Canal employees arranging transportation from the United States.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 3, 1921.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.            | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Salt water draft. | From—        | For—          | Cargo.                 |       | Panama Canal tonnage. |       |
|------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------------------|--------------|---------------|------------------------|-------|-----------------------|-------|
|                  | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |                   |              |               | Nature.                | Tons. | Gross.                | Net.  |
| Chas. H. Cramp   | 26               | 15.07 | 27             | 6.13  | 27                 | 13.59 | 27               | 14.57 | American     | Atl. Gulf & Pacific Co. (S. B.)  | 420.0   | 54.0  | 20.0              | Baltimore    | Seattle       | General                | 2,200 | 6,755                 | 4,750 |
| Rudine           | 26               | 18.50 | 27             | 7.30  | 27                 | 15.21 | 28               | 0.45  | British      | New Zealand Shipping Co.         | 481.0   | 60.0  | 26.0              | London       | Wellington    | General <sup>(4)</sup> | 3,574 | 11,627                | 8,050 |
| Felix Taussig    | 27               | 5.32  | 27             | 8.40  | 27                 | 16.17 | 27               | 17.37 | American     | Creswell & Thurlow               | 395.0   | 55.0  | 24.0              | Boston       | Los Angeles   | General                | 6,000 | 6,420                 | 4,472 |
| Albertorlie      | 27               | 7.00  | 27             | 9.00  | 27                 | 17.13 | 27               | 18.10 | British      | Imperial Oil Co.                 | 463.0   | 60.0  | 20.0              | Montreal     | Talara        | Ballast                | 8,491 | 6,096                 |       |
| Trancorlie       | 26               | 10.00 | 27             | 9.20  | 27                 | 15.37 | 28               | 15.02 | American     | Trans-Caribbean Co.              | 19.6    | 27.0  |                   | Cristobal    | Balboa        | Ballast                |       |                       | 2     |
| Hellen           | 27               | 17.12 | 28             | 6.20  | 28                 | 14.03 | 28               | 15.02 | Norwegian    | Brauegard Kinstend               | 400.0   | 52.0  | 19.0              | Antwerp      | Portland      | Ballast                | 2,999 | 5,730                 | 4,011 |
| West Farlon      | 27               | 14.42 | 28             | 7.45  | 28                 | 14.56 | 28               | 16.10 | American     | Williams, Diamond & Co. (S. B.)  | 431.0   | 54.0  | 19.6              | New Orleans  | San Francisco | General                | 2,500 | 7,046                 | 5,745 |
| Alvarado         | 28               | 8.50  | 28             | 9.40  | 28                 | 16.40 | 28               | 20.37 | American     | Swayne & Hoyt                    | 245.0   | 41.0  | 17.0              |              | San Francisco | General                | 2,500 | 2,122                 | 1,504 |
| Eastern Merchant | 28               | 15.55 | 29             | 6.18  | 29                 | 13.41 | 29               | 14.34 | American     | Williams, Diamond & Co. (S. B.)  | 445.0   | 58.0  | 19.6              | Liverpool    | San Francisco | General                | 3,072 | 8,617                 | 6,297 |
| City of Durham   | 29               | 9.25  | 30             | 6.38  | 30                 | 14.08 | 30               | 15.12 | British      | Hall Line, Ltd.                  | 407.0   | 51.0  | 27.2              | New York     | Yokohama      | General                | 7,900 | 6,069                 | 4,507 |
| Andrea F.        | 29               | 21.40 | 30             | 7.35  | 30                 | 14.53 | 30               | 16.05 | American     | Lukenbach Line.                  | 527.0   | 68.0  | 19.6              | Philadelphia | Los Angeles   | General                | 3,500 | 11,487                | 8,732 |
| Brush            | 30               | 8.04  | 30             | 8.47  | 30                 | 15.58 | 30               | 17.23 | American     | N. Atl. & Western S. S. Co.      | 390.0   | 54.0  | 20.0              | Boston       | Seattle       | General                | 2,600 | 6,161                 | 4,424 |
| Mystic           | 30               | 10.50 | 30             | 11.05 | 30                 | 18.12 | 30               | 19.25 | American     | Shawmut Steamship Co.            | 401.0   | 54.0  | 26.0              | Norfolk      | San Diego     | Coal                   | 7,496 | 6,623                 | 4,623 |
| Mississippi      | 29               | 16.55 | 30             | 11.35 | 30                 | 19.55 | 30               | 21.20 | French       | French Line                      | 410.0   | 52.0  | 16.0              | Bordeaux     | Lancaster     | General                | 7,456 | 6,942                 | 5,001 |
| Steel Scaler     | 30               | 11.32 | 30             | 11.50 | 30                 | 19.55 | 30               | 21.20 | American     | United States Steel Products Co. | 425.0   | 56.0  | 26.0              | New York     | Los Angeles   | General                | 7,690 | 7,634                 | 5,558 |
| Urumbaba         | 24               | 15.21 | 30             | 12.20 | 30                 | 20.45 | 30               | 22.00 | Peruvian     | Peruvian Line.                   | 381.0   | 41.0  | 19.0              | Cristobal    | Callo         | General                | 525   | 4,803                 | 2,951 |
| Laura C. Hall    | 29               | 16.55 | 1              | 6.07  | 1                  | 14.03 | 2                | 12.23 | British      | Pacific Metals Corporation       | 381.0   | 26.0  | 9.0               | Cristobal    | Buenaventura  | General                | 22    | 132                   | 72    |
| Iowan            | 30               | 22.47 | 1              | 6.29  | 1                  | 13.57 | 1                | 15.09 | American     | United American Line             | 408.0   | 54.0  | 19.0              | New York     | Los Angeles   | General                | 2,007 | 7,091                 | 5,002 |
| Ocean Monarch    | 1                | 6.17  | 1              | 11.45 | 1                  | 19.11 | 1                | 20.50 | British      | Monarch Steamship Co.            | 384.0   | 48.0  | 25.9              | New York     | Tosaki        | General                | 5,389 | 4,810                 | 3,558 |
| Tenpaian         | 1                | 12.00 | 1              | 12.15 | 1                  | 20.09 | 1                | 22.49 | Japanese     | Mitsui & Co.                     | 381.0   | 54.0  | 19.0              | Liverpool    | Portland      | Ballast                | 5,580 | 3,608                 |       |
| Maru             | 1                | 2.55  | 1              | 12.50 | 1                  | 20.56 | 1                | 22.10 | British      | Commonwealth and Dom. Line.      | 426.0   | 54.0  | 27.5              | London       | Auckland      | Railroad iron, etc.    | 5,439 | 7,506                 | 5,261 |
| Port Albany      | 1                | 2.55  | 1              | 12.50 | 1                  | 20.56 | 1                | 22.10 | British      | Commonwealth and Dom. Line.      | 426.0   | 54.0  | 27.5              | London       | Auckland      | Railroad iron, etc.    | 5,439 | 7,506                 | 5,261 |
| Selma City       | 2                | 5.33  | 2              | 6.20  | 2                  | 14.01 | 2                | 15.05 | American     | United States Steel Products Co. | 443.0   | 56.0  | 25.0              | Coco Solo    | Yokohama      | Steel and cotton       | 7,408 | 7,359                 | 3,448 |
| S. C. 284        | 2                | 7.00  | 2              | 7.00  | 2                  | 11.54 | 2                | 12.54 | American     | United States Navy               | 446.7   | 41.4  | 17.0              | Kingston     | Balboa        |                        |       |                       |       |
| Cambrian         | 2                | 17.00 | 3              | 6.00  | 3                  | 13.36 | 3                | 14.55 | British      | British Government               | 446.7   | 41.4  | 17.0              | Kingston     | Tumaco        |                        |       |                       |       |
| Laurel Leaf      | 2                | 14.21 | 3              | 7.20  | 3                  | 15.11 | 3                | 15.30 | British      | Anglo-Saxon Petroleum Co.        | 370.0   | 51.6  | 27.6              | Curacao      | Balboa        | Fuel oil               | 7,913 | 5,791                 | 3,714 |
| Birmingham       | 2                | 19.00 | 3              | 8.50  | 3                  | 16.17 | 3                | 17.25 | American     | United States Steel Products Co. | 412.0   | 55.0  | 28.5              | Baltimore    | Yokohama      | General <sup>(4)</sup> | 8,336 | 6,841                 | 4,686 |
| Barma            | 26               | 16.33 | 3              | 11.02 | 3                  | 17.56 | 3                | 20.19 | British      | Pacific Steam Navigation Co.     | 220.0   | 37.0  | 12.2              | Cristobal    | Champerco     | General                | 511   | 1,654                 | 871   |

\* Launch.

\* Motor schooner.

\* Cruiser.

\* Railroad material, textile goods, and general merchandise.

\* Pig iron, glass, and general.

\* Steel, sulphate, ammonia, and general.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                       | 26 | 19 | 30 | 27 | 7  | 43 | 27 | 15 | 29 | 27 | 17 | 25 | Norwegian | Brunsgaard Kiosterud           | 389 | 8 | 54 | 1 | 24 | 0 | Portland      | Genoa         | Wheat           | 7,250 | 5,680  | 4,220  |
|-----------------------|----|----|----|----|----|----|----|----|----|----|----|----|-----------|--------------------------------|-----|---|----|---|----|---|---------------|---------------|-----------------|-------|--------|--------|
| Heraldes.....         | 26 | 19 | 30 | 27 | 7  | 43 | 27 | 15 | 29 | 27 | 17 | 25 | American  | Lukenbach Line.....            | 436 | 6 | 57 | 2 | 29 | 3 | Seattle       | New York      | Lumber, general | 7,572 | 8,543  | 6,427  |
| Julia Luckenbach..... | 26 | 19 | 30 | 27 | 8  | 35 | 27 | 15 | 27 | 27 | 15 | 27 | American  | Atl. Gulf & Pacific S. S. Co.  | 400 | 8 | 53 | 9 | 26 | 2 | Portland      | Baltimore     | General         | 5,943 | 6,754  | 4,688  |
| Henry S. Grove.....   | 27 | 2  | 00 | 27 | 9  | 43 | 27 | 16 | 47 | 27 | 16 | 15 | British   | Turnbull, Scott & Co.          | 404 | 8 | 53 | 6 | 25 | 0 | Iquique       | Genoa         | Nitrate         | 7,155 | 5,771  | 4,047  |
| Flowergate.....       | 27 | 8  | 30 | 27 | 11 | 04 | 27 | 19 | 12 | 27 | 19 | 17 | British   | Pacific Steam Navigation Co.   | 220 | 0 | 34 | 0 | 11 | 0 | Tumaco        | Pro. Colombia | General         | 1,881 | 1,187  | 622    |
| Jamaica.....          | 28 | 3  | 50 | 28 | 8  | 41 | 28 | 15 | 05 | 3  | 19 | 27 | British   | Holmie Trans. Steamship Co.    | 400 | 0 | 52 | 2 | 25 | 0 | Portland      | Cristobal     | Wheat           | 6,675 | 5,771  | 4,047  |
| Loloes.....           | 28 | 7  | 00 | 28 | 7  | 53 | 28 | 17 | 30 | 29 | 7  | 37 | Greek     | Pacific Metals Corporation     | 81  | 0 | 25 | 6 | 9  | 1 | Buenaventura  | New York      | Wheat           | 68    | 132    | 72     |
| Laura C. Hall.....    | 28 | 18 | 10 | 29 | 9  | 33 | 29 | 16 | 55 | 3  | 6  | 07 | British   | Alaska Steamship Co.           | 345 | 3 | 49 | 6 | 24 | 0 | Seattle       | New York      | General         | 4,777 | 4,593  | 3,381  |
| Kennebec.....         | 29 | 9  | 00 | 29 | 11 | 17 | 29 | 17 | 57 | 30 | 9  | 17 | American  | Alaska Steamship Co.           | 345 | 3 | 49 | 6 | 24 | 0 | Seattle       | New York      | General         | 4,777 | 4,593  | 3,381  |
| Atlantehavet.....     | 29 | 23 | 00 | 29 | 12 | 37 | 29 | 19 | 45 | 30 | 7  | 30 | Danish    | Atlantehavet Steamship Co.     | 217 | 0 | 50 | 0 | 25 | 0 | Tucupilla     | Kiel Canal    | Nitrate         | 6,950 | 5,814  | 4,490  |
| Salvador.....         | 30 | 7  | 00 | 30 | 8  | 06 | 30 | 15 | 40 | 3  | 7  | 30 | British   | Pacific Steam Navigation Co.   | 385 | 0 | 53 | 0 | 13 | 3 | Guayaquil     | Cristobal     | General         | 236   | 1,213  | 692    |
| Canadian.....         | 30 | 20 | 00 | 1  | 8  | 01 | 1  | 16 | 12 | 1  | 17 | 35 | British   | Canada Government              | 400 | 0 | 55 | 9 | 21 | 6 | Buffs, N. Z.  | New York      | General         | 3,200 | 5,871  | 4,094  |
| Spanner.....          | 1  | 8  | 00 | 1  | 8  | 56 | 1  | 17 | 09 | 1  | 18 | 30 | Danish    | Orient Steamship Co.           | 398 | 7 | 55 | 9 | 21 | 6 | Copenhagen    | Copenhagen    | General         | 6,178 | 7,133  | 5,263  |
| Bolivia.....          | 1  | 13 | 00 | 1  | 14 | 00 | 1  | 21 | 20 | 2  | 17 | 20 | American  | United States Navy             | 514 | 0 | 65 | 0 | 20 | 0 | San Diego     | Hampton Rds   | General (Navy)  | 835   | 11,364 | 6,346  |
| Jason?.....           | 1  | 15 | 00 | 2  | 6  | 40 | 1  | 14 | 52 | 4  | 16 | 40 | American  | Panama Railroad Steamship Line | 323 | 5 | 39 | 0 | 20 | 0 | Guayaquil     | New York      | General         | 2,985 | 3,013  | 1,574  |
| City of Seattle.....  | 2  | 2  | 00 | 2  | 7  | 37 | 2  | 15 | 00 | 3  | 5  | 00 | American  | Pacific Steamship Co.          | 244 | 6 | 40 | 0 | 14 | 6 | Seattle       | Jacksonville  | Ballast         | 2,153 | 1,514  |        |
| Scottish Monarch..... | 2  | 9  | 30 | 2  | 10 | 31 | 2  | 17 | 36 | 2  | 19 | 25 | British   | Monarch Steamship Co.          | 420 | 5 | 54 | 3 | 25 | 0 | Portland      | Italy         | Wheat           | 7,668 | 6,321  | 4,548  |
| Niagara.....          | 30 | 15 | 15 | 2  | 11 | 17 | 2  | 18 | 42 | 2  | 19 | 35 | American  | United States Navy             | 243 | 0 | 36 | 3 | 17 | 1 | Balboa        | La Guaira     | Nitrate         | 9,400 | 8,238  | 6,270  |
| Saverte.....          | 2  | 11 | 45 | 2  | 12 | 41 | 2  | 20 | 50 | 2  | 22 | 20 | British   | Andrew Watt & Co.              | 460 | 0 | 55 | 1 | 25 | 0 | Iquique       | Norfolk       | General         | 1,284 | 13,233 | 10,400 |
| Butte State.....      | 2  | 13 | 45 | 3  | 6  | 26 | 3  | 13 | 52 | 3  | 14 | 25 | American  | Maison Navigation Co. (S. B.)  | 517 | 0 | 72 | 2 | 20 | 0 | Honolulu      | Baltimore     | General         | 7,000 | 7,107  | 4,916  |
| Pennsylvania.....     | 2  | 19 | 30 | 3  | 7  | 48 | 3  | 15 | 30 | 3  | 15 | 30 | American  | United American Line           | 407 | 7 | 53 | 7 | 26 | 7 | Seattle       | Hamburg       | General         | 1,300 | 4,147  | 3,289  |
| Placiditas.....       | 2  | 22 | 00 | 3  | 8  | 51 | 3  | 16 | 12 | 3  | 16 | 12 | American  | Lukenbach Line                 | 331 | 5 | 47 | 0 | 16 | 5 | Portland      | Mobile        | General         | 1,300 | 4,147  | 3,289  |
| Los Angeles.....      | 3  | 9  | 00 | 3  | 11 | 00 | 3  | 18 | 00 | 3  | 18 | 00 | American  | Union Oil Co.                  | 435 | 0 | 56 | 2 | 20 | 0 | San Francisco | Port Lobos    | Ballast         | 7,193 | 4,963  |        |
| Ural Sea Maru.....    | 3  | 11 | 30 | 3  | 13 | 47 | 3  | 22 | 10 | 4  | 12 | 18 | Japanese  | Mitsui & Co.                   | 400 | 0 | 53 | 0 | 27 | 0 | Portland      | Cork          | Wheat           | 6,686 | 5,930  | 4,277  |
| S. C. 284.....        | 2  | 11 | 54 | 3  | 14 | 30 | 3  | 21 | 18 | 3  | 21 | 18 | American  | United States Navy             | 110 | 0 | 16 | 0 |    |   | Balboa        | Cristobal     | General         |       |        |        |

\* Collier.

\* Patrol yacht.

\* Coffee, gold, and platinum.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS    |                     |                                 |                         | *DEPARTURES |                      |                                 |                         |
|--------------|---------------------|---------------------------------|-------------------------|-------------|----------------------|---------------------------------|-------------------------|
| Date.        | Vessel              | Line.                           | From—                   | Date.       | Vessel.              | Line.                           | For—                    |
| Nov. 27..... | Gen. W. C. Goethals | Panama Railroad Steamship Line. | New York via Haiti.     | Nov. 27     | Abangarez            | United Fruit Co.                | Bocas del Toro.         |
| Nov. 27..... | Abangarez           | United Fruit Co.                | New Orleans and Habana. | Nov. 27     | Cristobal            | Panama Railroad Steamship Line. | Norfolk.                |
| Nov. 27..... | Solana              | Pacific Mail Steamship Co.      | Tampico.                | Nov. 29     | Solana               | Pacific Mail Steamship Co.      | Tam Yuc.                |
| Nov. 28..... | Gen. W. C. Gorgas   | Panama Railroad Steamship Line  | New York via Haiti.     | Nov. 30     | Gen. G. W. Goethals. | Panama Railroad Steamship Line. | New York                |
| Nov. 28..... | Parishina           | United Fruit Co.                | New Orleans.            | Nov. 30     | Abangarez.           | United Fruit Co.                | New Orleans             |
| Nov. 29..... | Ulua                | United Fruit Co.                | New York via Habana.    | Nov. 30     | Ulua                 | United Fruit Co.                | New York via Port Limon |
| Nov. 30..... | Abangarez           | United Fruit Co.                | Bocas del Toro.         |             |                      |                                 | and Habana.             |
| Nov. 30..... | Camden              | United Fruit Co.                | Tampico.                | Dec. 1.     | Sixacola             | United Fruit Co.                | New York via wayports.  |

(Continued on page 246, column 2.)

# Commercial Traffic Through the Panama Canal in November, 1921, by Trade Routes.

## ATLANTIC TO PACIFIC.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.       | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|--------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |              |                   |
| <i>United States coastwise:</i>                                         |                 |                           |                   |                   |                 |              | <i>Long tons.</i> |
| United States                                                           | 24              | 107,747                   | 136,349           | 164,716           | 108,063         | \$131,558.19 | 91,067            |
| <i>From east coast of United States to Far East:</i>                    |                 |                           |                   |                   |                 |              |                   |
| United States                                                           | 7               | 30,839                    | 40,612            | 49,748            | 30,649          | 38,548.75    | 47,236            |
| Japanese                                                                | 6               | 24,839                    | 28,740            | 37,061            | 24,221          | 30,689.55    | 38,970            |
| British                                                                 | 4               | 16,171                    | 21,763            | 25,378            | 16,308          | 20,213.75    | 29,822            |
| Totals                                                                  | 17              | 71,849                    | 91,115            | 112,187           | 71,178          | 89,452.05    | 116,028           |
| <i>From Europe to west coast of United States:</i>                      |                 |                           |                   |                   |                 |              |                   |
| Norwegian                                                               | 3               | 12,419                    | 14,123            | 16,762            | 11,801          | 15,523.75    | 10,011            |
| British                                                                 | 3               | 11,704                    | 14,437            | 18,997            | 11,769          | 13,617.04    |                   |
| Japanese                                                                | 2               | 9,452                     | 9,828             | 12,453            | 9,254           | 9,632.00     |                   |
| United States                                                           | 2               | 4,397                     | 5,829             | 7,040             | 4,218           | 5,089.41     | 2,464             |
| Dutch                                                                   | 1               | 4,863                     | 6,066             | 7,655             | 4,799           | 6,078.75     | 3,048             |
| Swedish                                                                 | 1               | 2,286                     | 4,013             | 3,764             | 2,852           | 2,857.50     | 1,753             |
| French                                                                  | 1               | 2,264                     | 2,933             | 3,563             | 2,293           | 2,830.00     | 37                |
| Totals                                                                  | 13              | 47,385                    | 57,229            | 70,234            | 46,986          | 55,628.45    | 17,313            |
| <i>From east coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |              |                   |
| British                                                                 | 5               | 12,984                    | 17,459            | 22,719            | 13,257          | 14,812.06    | 4,833             |
| United States                                                           | 5               | 13,262                    | 17,919            | 21,966            | 13,320          | 15,632.84    | 5,500             |
| Norwegian                                                               | 2               | 4,035                     | 4,990             | 6,524             | 4,053           | 5,043.75     | 4,545             |
| Totals                                                                  | 12              | 30,281                    | 40,368            | 51,209            | 30,630          | 35,488.65    | 14,878            |
| <i>From Europe to west coast of South America:</i>                      |                 |                           |                   |                   |                 |              |                   |
| British                                                                 | 5               | 16,295                    | 20,179            | 25,735            | 15,997          | 20,368.75    | 10,450            |
| Dutch                                                                   | 1               | 4,085                     | 4,393             | 4,368             | 2,726           | 5,106.25     | 1,334             |
| Danish                                                                  | 1               | 4,082                     | 4,490             | 4,076             | 2,506           | 3,232.80     |                   |
| French                                                                  | 1               | 3,566                     | 4,081             | 5,681             | 3,600           | 4,457.50     | 237               |
| Italian                                                                 | 1               | 3,097                     | 3,599             | 5,376             | 3,082           | 3,871.25     | 524               |
| German                                                                  | 1               | 2,531                     | 3,374             | 4,174             | 2,584           | 3,163.75     | 3,062             |
| Peruvian                                                                | 1               | 2,337                     | 2,357             | 2,477             | 2,352           | 2,828.40     | 3,866             |
| Totals                                                                  | 11              | 35,993                    | 42,473            | 51,887            | 32,847          | 43,028.70    | 19,473            |
| <i>From Cristobal to west coast of South America:</i>                   |                 |                           |                   |                   |                 |              |                   |
| British                                                                 | 3               | 1,262                     | 1,648             | 2,280             | 1,365           | 1,577.50     | 407               |
| Peruvian                                                                | 2               | 3,021                     | 5,910             | 9,420             | 5,100           | 3,776.25     | 836               |
| Chilean                                                                 | 2               | 2,738                     | 4,733             | 5,282             | 3,233           | 3,422.50     | 997               |
| United States                                                           | 2               | 672                       | 700               | 1,230             | 744             | 672.00       | 29                |
| Panaman                                                                 | 1               | 104                       | 120               | 193               | 116             | 86.40        |                   |
| Totals                                                                  | 10              | 7,797                     | 13,111            | 18,405            | 10,558          | 9,534.65     | 2,269             |
| <i>From Europe to Australasia:</i>                                      |                 |                           |                   |                   |                 |              |                   |
| British                                                                 | 8               | 45,599                    | 58,006            | 71,515            | 45,898          | 56,758.80    | 48,400            |
| <i>From east coast of United States to Australasia:</i>                 |                 |                           |                   |                   |                 |              |                   |
| British                                                                 | 4               | 13,831                    | 16,166            | 20,245            | 12,413          | 17,055.75    | 15,722            |
| United States                                                           | 1               | 4,335                     | 4,321             | 5,716             | 4,271           | 5,185.20     | 5,937             |
| Totals                                                                  | 5               | 18,166                    | 20,487            | 25,961            | 16,684          | 22,240.95    | 21,659            |
| <i>From Europe to west coast of Canada:</i>                             |                 |                           |                   |                   |                 |              |                   |
| United States                                                           | 2               | 9,607                     | 12,042            | 15,601            | 9,607           | 12,008.75    | 6,071             |
| British                                                                 | 1               | 5,154                     | 6,588             | 8,263             | 5,163           | 6,442.50     | 180               |
| French                                                                  | 1               | 4,874                     | 5,001             | 6,887             | 4,236           | 6,001.20     | 360               |
| Japanese                                                                | 1               | 4,437                     | 4,471             | 5,859             | 4,293           | 3,327.75     |                   |
| Totals                                                                  | 5               | 24,072                    | 28,102            | 36,410            | 23,299          | 27,780.20    | 6,611             |
| <i>From east coast of Mexico to west coast of United States:</i>        |                 |                           |                   |                   |                 |              |                   |
| Norwegian                                                               | 1               | 4,418                     | 5,043             | 6,987             | 4,422           | 5,522.50     | 9,300             |
| United States                                                           | 1               | 4,206                     | 4,903             | 6,752             | 4,205           | 5,257.50     | 11,000            |
| Totals                                                                  | 2               | 8,624                     | 9,946             | 13,739            | 8,627           | 10,780.00    | 20,300            |
| <i>From Cristobal, C. Z., to west coast of United States:</i>           |                 |                           |                   |                   |                 |              |                   |
| United States                                                           | 2               | 2,986                     | 3,756             | 4,796             | 2,963           | 3,732.50     | 3,717             |
| <i>From Europe to west coast of Central America:</i>                    |                 |                           |                   |                   |                 |              |                   |
| German                                                                  | 1               | 1,118                     | 1,361             | 2,064             | 1,182           | 1,397.50     | 490               |
| British                                                                 | 1               | 717                       | 916               | 1,449             | 875             | 896.25       | 308               |
| Totals                                                                  | 2               | 1,835                     | 2,277             | 3,513             | 2,057           | 2,293.75     | 798               |

## ATLANTIC TO PACIFIC—Continued.

| Route and registry.                                              | No. of vessels. | TONNAGE.                  |                   |                   |                  | Tolls.     | Tons of cargo.    |
|------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|------------------|------------|-------------------|
|                                                                  |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net.  |            |                   |
| <i>From Cristobal, C. Z., to west coast of Central America:</i>  |                 |                           |                   |                   |                  |            | <i>Long tons.</i> |
| British.....                                                     | 2               | 1,401                     | 1,577             | 2,731             | 1,463            | \$1,751 25 | 871               |
| <i>From United States to west coast of Canada:</i>               |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 6,766                     | 8,326             | 10,893            | 6,791            | 8,457 50   | 4,234             |
| <i>From east coast of Canada to west coast of South America:</i> |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 5,166                     | 6,096             | 8,461             | 5,960            | 4,389 12   | .....             |
| <i>From east coast of Mexico to west coast of South America:</i> |                 |                           |                   |                   |                  |            |                   |
| Norwegian.....                                                   | 1               | 4,407                     | 5,051             | 7,022             | 4,438            | 5,508 75   | 9,000             |
| <i>From east coast of South America to Far East:</i>             |                 |                           |                   |                   |                  |            |                   |
| Japanese.....                                                    | 1               | 3,590                     | 4,101             | 5,760             | 3,548            | 4,487 50   | 3,574             |
| <i>oreign ships in ballast, United States coastwise:</i>         |                 |                           |                   |                   |                  |            |                   |
| Japanese.....                                                    | 1               | 3,421                     | 4,305             | 5,467             | 3,409            | 4,276 25   | .....             |
| <i>From Europe to Hawaii:</i>                                    |                 |                           |                   |                   |                  |            |                   |
| Danish.....                                                      | 1               | 2,467                     | 4,507             | 4,088             | 2,506            | 3,083 75   | 5,943             |
| <i>From east coast of United States to Central America:</i>      |                 |                           |                   |                   |                  |            |                   |
| United States.....                                               | 1               | 719                       | 730               | 818               | 708              | 878 40     | 6                 |
| <i>Colombian coastwise:</i>                                      |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 614                       | 622               | 1,138             | 602              | 746 40     | 540               |
| <i>Miscellaneous routings:</i>                                   |                 |                           |                   |                   |                  |            |                   |
| United States <sup>1</sup> .....                                 | 1               | 382                       | 483               | 791               | 393              | 347 76     | .....             |
| British.....                                                     | 1               | ( <sup>2</sup> )          | ( <sup>2</sup> )  | ( <sup>2</sup> )  | ( <sup>2</sup> ) | 6,005 50   | ( <sup>2</sup> )  |
| Totals.....                                                      | 2               | 382                       | 483               | 791               | 393              | 6,353 26   | .....             |
| Totals, November, 1921.....                                      | 123             | 431,267                   | 539,017           | 671,741           | 429,608          | 528,209 07 | 336,681           |
| Totals, October, 1921.....                                       | 131             | 459,713                   | 571,175           | 708,363           | 458,589          | 541,994 93 | 374,437           |
| Totals, November, 1920.....                                      | 123             | 387,397                   | 467,951           | 593,207           | 380,583          | 483,998 44 | 491,109           |

## PACIFIC TO ATLANTIC.

|                                                                         |    |        |        |         |        |             |                   |
|-------------------------------------------------------------------------|----|--------|--------|---------|--------|-------------|-------------------|
| <i>From west coast of United States to Europe:</i>                      |    |        |        |         |        |             | <i>Long tons.</i> |
| British.....                                                            | 5  | 19,900 | 25,833 | 31,301  | 20,026 | \$24,875 00 | 34,450            |
| Japanese.....                                                           | 4  | 17,304 | 19,008 | 25,389  | 17,022 | 21,284 30   | 30,944            |
| United States.....                                                      | 3  | 12,773 | 15,898 | 20,444  | 12,766 | 15,966 25   | 26,488            |
| Swedish.....                                                            | 2  | 6,659  | 9,630  | 9,444   | 7,159  | 8,323 75    | 14,737            |
| Greek.....                                                              | 2  | 6,212  | 7,429  | 8,683   | 5,312  | 7,671 40    | 11,056            |
| Norwegian.....                                                          | 2  | 5,961  | 8,341  | 9,462   | 5,888  | 7,451 25    | 14,337            |
| Spanish.....                                                            | 2  | 5,906  | 7,028  | 9,214   | 5,473  | 7,382 50    | 12,731            |
| Dutch.....                                                              | 1  | 2,221  | 3,480  | 3,720   | 2,254  | 2,776 25    | 5,850             |
| Totals.....                                                             | 21 | 76,936 | 96,647 | 117,657 | 75,900 | 95,730 70   | 151,491           |
| <i>United States coastwise:</i>                                         |    |        |        |         |        |             |                   |
| United States.....                                                      | 17 | 70,791 | 86,958 | 108,930 | 69,725 | 88,339 80   | 101,450           |
| <i>From west coast of South America to Europe:</i>                      |    |        |        |         |        |             |                   |
| British.....                                                            | 6  | 20,183 | 26,529 | 32,274  | 20,208 | 25,228 75   | 35,611            |
| Italian.....                                                            | 2  | 6,586  | 8,083  | 10,543  | 6,429  | 8,232 50    | 8,633             |
| Dutch.....                                                              | 2  | 3,667  | 5,755  | 5,702   | 3,710  | 4,583 75    | 7,150             |
| French.....                                                             | 1  | 3,631  | 4,166  | 5,818   | 3,712  | 4,538 75    | 6,100             |
| Danish.....                                                             | 1  | 2,490  | 4,490  | 4,076   | 2,506  | 3,112 50    | 6,950             |
| German.....                                                             | 1  | 1,783  | 2,924  | 2,990   | 1,757  | 2,228 75    | 4,500             |
| Totals.....                                                             | 13 | 38,340 | 51,947 | 61,408  | 38,322 | 47,925 00   | 68,994            |
| <i>From west coast of South America to east coast of United States:</i> |    |        |        |         |        |             |                   |
| United States.....                                                      | 6  | 18,978 | 24,054 | 30,241  | 18,656 | 23,722 50   | 29,866            |
| British.....                                                            | 4  | 11,795 | 15,706 | 20,878  | 12,505 | 14,743 75   | 13,934            |
| Norwegian.....                                                          | 1  | 879    | 1,457  | 1,462   | 890    | 1,098 75    | 425               |
| Totals.....                                                             | 11 | 31,652 | 41,217 | 52,581  | 32,051 | 39,565 00   | 44,225            |
| <i>From west coast of South America to Cristobal, C. Z.:</i>            |    |        |        |         |        |             |                   |
| British.....                                                            | 5  | 2,526  | 2,962  | 4,546   | 2,617  | 3,136 40    | 1,215             |
| Peruvian.....                                                           | 2  | 3,021  | 5,910  | 9,361   | 5,100  | 3,776 25    | 4,381             |
| United States.....                                                      | 2  | 672    | 700    | 1,230   | 744    | 840 00      | 1,210             |
| Chilean.....                                                            | 1  | 1,463  | 2,577  | 2,553   | 1,600  | 1,828 75    | 121               |
| Totals.....                                                             | 10 | 7,682  | 12,149 | 17,690  | 10,061 | 9,581 40    | 6,927             |

<sup>1</sup> Yacht.    <sup>2</sup> British cruiser of 12,011 tons displacement.

## PACIFIC TO ATLANTIC.—Continued.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.      | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |                   |
| <i>From west coast of Canada to Europe:</i>                             |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| British.....                                                            | 5               | 20,968                    | 26,027            | 33,647            | 21,095          | \$26,210.00 | 25,030            |
| Dutch.....                                                              | 2               | 9,620                     | 11,375            | 15,253            | 9,648           | 12,025.00   | 16,141            |
| Totals.....                                                             | 7               | 30,588                    | 37,402            | 48,900            | 30,743          | 38,235.00   | 41,171            |
| <i>From west coast of South America to east coast of Mexico:</i>        |                 |                           |                   |                   |                 |             |                   |
| Norwegian.....                                                          | 2               | 8,825                     | 10,094            | 17,009            | 8,860           | 7,267.68    | .....             |
| British.....                                                            | 1               | 4,645                     | 5,311             | 7,270             | 4,513           | 3,823.92    | .....             |
| United States.....                                                      | 1               | 4,203                     | 5,041             | 6,702             | 4,203           | 3,629.52    | .....             |
| Totals.....                                                             | 4               | 17,673                    | 20,446            | 30,981            | 17,576          | 14,721.12   | .....             |
| <i>From Far East to east coast of United States:</i>                    |                 |                           |                   |                   |                 |             |                   |
| Japanese.....                                                           | 2               | 9,388                     | 10,783            | 14,938            | 9,207           | 11,735.00   | 12,603            |
| British.....                                                            | 1               | 3,695                     | 3,991             | 4,329             | 2,798           | 4,618.75    | 4,405             |
| United States.....                                                      | 1               | 3,425                     | 4,385             | 6,106             | 4,355           | 4,281.25    | 6,072             |
| Totals.....                                                             | 4               | 16,508                    | 19,159            | 25,373            | 16,360          | 20,635.00   | 23,080            |
| <i>From west coast of Canada to east coast of United States:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 3               | 14,829                    | 17,011            | 21,392            | 15,224          | 18,536.25   | 15,332            |
| <i>From west coast of Central America to Cristobal, C. Z.:</i>          |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 3               | 2,164                     | 2,448             | 4,292             | 2,272           | 2,705.00    | 250               |
| <i>From Australasia to Europe:</i>                                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 5,544                     | 6,581             | 8,734             | 5,543           | 6,930.00    | 5,775             |
| <i>From Far East to Europe:</i>                                         |                 |                           |                   |                   |                 |             |                   |
| Japanese.....                                                           | 1               | 4,365                     | 4,397             | 5,870             | 4,266           | 5,276.40    | 7,300             |
| <i>From west coast of United States to east coast of South America:</i> |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 3,034                     | 4,174             | 4,748             | 2,925           | 3,792.50    | 2,408             |
| <i>From west coast of United States to Cristobal, C. Z.:</i>            |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 1,654                     | 2,163             | 2,643             | 1,654           | 2,067.50    | 158               |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 614                       | 622               | 1,138             | 602             | 746.40      | 188               |
| <i>Miscellaneous: <sup>1</sup></i>                                      |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 56                        | 73                | 79                | 54              | 52.56       | .....             |
| Totals, November, 1921.....                                             | 99              | 322,430                   | 403,394           | 512,416           | 323,278         | 394,839.63  | 468,759           |
| Totals, October, 1921.....                                              | 124             | 406,483                   | 498,379           | 627,449           | 405,087         | 505,940.69  | 611,338           |
| Totals, November, 1920.....                                             | 115             | 378,420                   | 461,924           | 590,865           | 375,640         | 449,913.67  | 493,801           |

<sup>1</sup> Yacht.**Notice to Mariners.—Obstruction to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., December 1, 1921.

The master of the steamship *General H. F. Hodges*, reports having passed at 12.45 p. m., December 1, about 8 miles east of Bona Island, a log about 40 feet long, dangerous to navigation.

JAY J. MORROW,  
Governor.

**Notice to Mariners.—Galera Zamba Light, Colombia, Reported Extinguished.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., December 3, 1921.

The master of the steamship *Lake Fariston* reports the Galera Zamba light, Colombia, not burning at midnight on November 29, 1921. The Captain of the Port, Puerto Colombia, reports light extinguished since November 25, 1921.

JAY J. MORROW,  
Governor.



### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending December 3, 1921.

| Name of vessel.     | Line or charterer.             | Arrived.    | Departed.   | Cargo—     |           |
|---------------------|--------------------------------|-------------|-------------|------------|-----------|
|                     |                                |             |             | Discharged | Laded.    |
| Abangarez.....      | United Fruit Co.               | November 27 | November 27 | Tons. (1)  | Tons. 470 |
| Solana.....         | Pacific Mail Steamship Co.     | November 27 | November 28 | 9,500      | (2)       |
| Gen. G. W. Goethals | Panama Railroad Steamship Line | November 27 | November 30 | 1,045      | 2,026     |
| Urubamba.....       | Peruvian Line                  |             | November 30 |            | 546       |
| Parismina.....      | United Fruit Co.               | November 28 | December 1  | 704        | 26        |
| Gen. W. C. Gorgas   | Panama Railroad Steamship Line | November 28 | December 2  | 2          | 693       |
| Jamaica.....        | Pacific Steam Navigation Co.   | November 28 | December 3  | 170        | 1         |
| Mississippi.....    | French Line                    | November 29 | November 30 | 25         | (2)       |
| Laura C. Hall.....  | Pacific Metals Corporation     | November 29 | December 1  | 68         | 26        |
| Ulua.....           | United Fruit Co.               | November 29 | November 30 | 207        | 130       |
| Salvador.....       | Pacific Steam Navigation Co.   | November 30 |             | 236        |           |
| Abangarez.....      | United Fruit Co.               | November 30 | November 30 | (1)        | 5         |
| Sixola.....         | United Fruit Co.               | November 30 | December 1  | 1          | 1         |
| Santa Marta.....    | United Fruit Co.               | November 30 | December 1  | 90         | 274       |
| Camden.....         | United Fruit Co.               | November 30 | December 2  | 4,015      | (2)       |
| Asian.....          | Leyland Line                   | December 1  | December 2  | 543        | 48        |
| Gen. H. F. Hodges   | Panama Railroad Steamship Line | December 2  |             | 482        |           |
| San Bruno.....      | United Fruit Co.               | December 3  | December 3  | 15         | 343       |
| Caribbean.....      | Panama Railroad Steamship Line | December 3  |             | 800        |           |
| Barima.....         | Pacific Steam Navigation Co.   |             | December 3  |            | 516       |

\* No cargo discharged.

\* No cargo laded.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending December 3, 1921.

| Name of vessel.      | Line or charterer.                | Arrived.    | Departed.   | Cargo—     |           |
|----------------------|-----------------------------------|-------------|-------------|------------|-----------|
|                      |                                   |             |             | Discharged | Laded.    |
| Aysen.....           | Peruvian Line                     | November 27 | November 30 | Tons. 296  | Tons. 231 |
| Laura C. Hall.....   | Pacific Metals Transportation Co. | November 28 | November 29 | 3          |           |
| Salvador.....        | Pacific Steam Navigation Co.      | November 30 | November 30 | 4          |           |
| Anyo Maru.....       | Toyo Kisen Kaisha                 | December 1  | December 2  | 947        |           |
| Baja California..... | A. A. S. S. Co.                   | December 1  | December 2  | 905        |           |
| Laura C. Hall.....   | Pacific Metals Transportation Co. | December 1  | December 1  |            | 56        |
| Barima.....          | Pacific Steam Navigation Co.      | December 3  | December 3  |            | 6         |

### Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended December 5:

Steamships *Barima*, buff ridge off of H. P. cylinder and manufacture 6 rings to suit; *Jamaica*, cast and machine valve for sanitary pump, etc.; tug *Porto Bello*, scale boiler; braze surface blow pipe; repair reversing ram; brick boiler, etc.; barges *Nos. 3 and 17*, clean and paint bottom; test all tanks and stop all leaks; steamships *General H. F. Hodges*, renew steering chains and weld steering rods; cover H. P. receiver pipe; repair cargo hooks; calk decks, etc.; *General O. H. Ernst*, repair throttle valve; rebore spindle hole in M. P. valve; cut oil groove and manufacture new balance ring; anneal and repair steering chains, etc.; *Advance*, clean furnaces; furnish machinist and riggers to assist engineers to lay up machinery; launch *Patrol*, steamship *City of Seattle*, and motor ship *Laura C. Hall*, minor repairs.

### PREVIOUSLY REPORTED.

U. S. S. *O-12*, renew all rivets in engine foundations; overhaul all sea valves; overhaul steering and diving gear, etc.; barges *Nos. 15 and 48*, scale and paint bottom; steamship *General W. C. Gorgas*, braze steam heating line; burn 3 air port holes in shell plating, and install ports; get out parts for gangway, etc.

### Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States "Pancanal, Washington."

## Official Circular.

## Work Requests, Estimates, and Reports of Costs.

THE PANAMA CANAL,  
EXECUTIVE OFFICE.

BALBOA HEIGHTS, C. Z., November 26, 1921.  
CIRCULAR NO. 642-5:

1. All work requests now requiring the approval of the Governor will hereafter be submitted direct to the Engineer of Maintenance. Such requests will show the estimated cost and must be accompanied by data showing that an adequate estimate including all elements has been made, and no work will be undertaken unless such estimate has been made.

2. The Accounting Department will furnish the Engineer of Maintenance monthly a list of all jobs, for which the estimate was \$500, or more, and for which the cost upon completion varied 10 per cent, or more, also a list of the jobs, the estimated cost of which was under \$500, and the variation was 25 per cent, or more. Heads of departments and divisions will see that every effort is made to keep the final costs within the estimates of the work done and, with the exception of the Superintendent of the Mechanical Division, will submit explanations to the Engineer of Maintenance in all cases in which the variation is greater than the percentages stated. Work performed for the Army, Navy, or other departments of Government, which is payable from appropriations, must not, under any circumstances, exceed the specific allotments for such work.

3. Special care must be used in making estimates for work for the Army or Navy, or other than Canal or Railroad interests. Wherever it is practicable to do so, flat prices for doing work may be quoted without regard to the final costs. For jobs which will cost less than \$100, heads of departments and divisions are authorized to make such quotations. For jobs costing more than \$100, any flat price for the performance of work must be first approved by the Engineer of Maintenance. This rule shall not apply to the Superintendent of the Mechanical Division, who, for the time being, is authorized to quote flat prices for performance of work in such cases as he may deem practicable. Inasmuch as there may be some cases in which the final costs will exceed the prices quoted, it is essential that some percentage be added to the estimated cost in order to prevent ultimate losses and insure a small profit. For any interest that desires work to be done for a flat price, there should be added to the estimates of costs about 10 per cent of same to insure against loss.

4. Generally, no estimates of costs of performance of work should be made without charge therefor, unless such estimates can be made by the regular office forces and without material additional expense to the Canal. However, both the Engineer of Maintenance and the Superintendent of the Mechanical Division are authorized to make other estimates without charge whenever they have reasonable grounds to believe that the work for which the estimate is made will be turned over to the Canal to perform within a reasonable time thereafter. The necessity for exercising care in the incurring of expenses for making estimates is the fact that the amount of such expenses increases the expenses of the Canal without any corresponding benefit unless the Canal forces ultimately perform the work.

JAY J. MORROW,  
Governor.

## Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

MOVEMENTS OF OCEAN VESSELS.—Continued from page 241.  
PORT OF CRISTOBAL—continued.

| Date.           | *ARRIVALS.      |                                |                        | *DEPARTURES. |                   |                                 |
|-----------------|-----------------|--------------------------------|------------------------|--------------|-------------------|---------------------------------|
|                 | Vessel.         | Line.                          | From—                  | Date.        | Vessel.           | Line.                           |
| Nov. 30         | Sixola          | United Fruit Co.               | New York via wayports. | Dec. 1       | Santa Marta       | United Fruit Co.                |
| Nov. 30         | Lady Sybil      | United Fruit Co.               | New York via wayports. | Dec. 1       | Parismina         | United Fruit Co.                |
| Dec. 1          | Asian           | Leyland Line                   | Liverpool.             | Dec. 2       | Gen. W. C. Gorgas | Panama Railroad Steamship Line. |
| Dec. 2          | Cambrai         | United States Army             | New York via San Juan. | Dec. 2       | Camden            | United Fruit Co.                |
| Dec. 3          | San Bruno       | United Fruit Co.               | Boston via Port Limon. | Dec. 2       | Asian             | Leyland Line                    |
| Dec. 3          | Caribbean       | Panama Railroad Steamship Line | Carthagena.            | Dec. 3       | San Bruno         | United Fruit Co.                |
| PORT OF BALBOA. |                 |                                |                        |              |                   |                                 |
| 11 Transport.   |                 |                                |                        |              |                   |                                 |
| Nov. 27         | Aysen           | South American Steamship Co.   | Valparaiso.            | Nov. 30      | Aysen             | South American Steamship Co.    |
| Nov. 28         | Lady Sybil      | International Petroleum Co.    | Talara.                | Dec. 2       | Anjo Maru         | Toyo Kisen Kaisha               |
| Dec. 1          | Anjo Maru       | Toyo Kisen Kaisha              | Hongkong.              | Dec. 2       | Baja California   | A. O. Lindvig.                  |
| Dec. 1          | Baja California | A. O. Lindvig                  | Talara.                |              |                   |                                 |

\* Other than ships passing through the Canal.

For—  
New York via wayports.  
New York via Bocas del  
Toro and Habana.  
New York via Haiti.  
Tampico.  
New Orleans.  
Boston.

Valparaiso.  
Valparaiso.  
Champerico.

# THE PANAMA CANAL RECORD

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Volume XV. Balboa Heights, C. Z., December 14, 1921. No. 18.

## Executive Order.<sup>1</sup>

By virtue of authority vested in me under Section 5 of The Panama Canal Act, approved August 24, 1912, I, Warren G. Harding, President of the United States of America, hereby establish the following Executive Order in connection with the payment of tolls to be effective immediately:

1. Vessels transiting The Panama Canal from Cristobal to Balboa and return, for the sole purpose of having repairs made at the Balboa dry dock and shops, will be exempt from the payment of tolls as prescribed in the Proclamation of the President of the United States dated November 13, 1912, but in lieu thereof shall pay charges for pilotage, towage, and lockages for such transit at rates based on cost as determined by the Governor of The Panama Canal from time to time.

2. Should a vessel, after having made the transit from Cristobal to Balboa under the above conditions, decide not to return to Cristobal, or should it discharge or receive cargo, passengers, mail, or baggage at Balboa or accomplish anything else for which vessels usually transit the Canal other than to have repairs made, tolls will be collected for the transit from Cristobal to Balboa at the prescribed rates before such vessel will be given a clearance and allowed to proceed, the amount previously collected for lockage and pilotage through the Canal being applied as part payment thereof.

THE WHITE HOUSE,  
November 17, 1921.

WARREN G. HARDING.

[No. 3581.]

<sup>1</sup> This Order is being published as Panama Circular No. 601-126.

## Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending December 10, 1921.

| Name of vessel.       | Line or charterer.               | Arrived.      | Departed.     | Cargo—                    |                  |
|-----------------------|----------------------------------|---------------|---------------|---------------------------|------------------|
|                       |                                  |               |               | Discharged                | Laded.           |
|                       |                                  |               |               | Tons.<br>( <sup>2</sup> ) | Tons.            |
| Metapan.....          | United Fruit Co.....             | December 4..  | December 4..  |                           | 7                |
| Salvador.....         | Pacific Steam Navigation Co..... |               | December 6..  |                           | 246              |
| Caribbean.....        | Panama Railroad Steamship Line.. |               | December 7..  |                           | 36               |
| Gen. O. H. Ernst..... | Panama Railroad Steamship Line.. | December 4..  | December 7..  | 736                       | 1,169            |
| Advance.....          | Panama Railroad Steamship Line.. | December 4..  |               | 1,197                     |                  |
| La Navarre.....       | French Line.....                 | December 4..  | December 8..  | 72                        | 316              |
| Chancellor.....       | Harrison Line.....               | December 5..  | December 6..  | ( <sup>2</sup> )          | 724              |
| Cartago.....          | United Fruit Co.....             | December 5..  | December 7..  | 498                       | ( <sup>2</sup> ) |
| Tolosa.....           | United Fruit Co.....             | December 6..  | December 7..  | 259                       | 28               |
| Huallaga.....         | Peruvian Steamship Line.....     | December 6..  |               | 1,844                     |                  |
| Santa Tecla.....      | W. R. Grace & Co.....            | December 6..  | December 7..  | 55                        | ( <sup>2</sup> ) |
| Mamei.....            | Panama Railroad Steamship Line.. | December 6..  |               | 7,034                     |                  |
| Achilles.....         | Panama Railroad Steamship Line.. | December 6..  |               | 12,035                    |                  |
| Ecuador.....          | Pacific Mail Steamship Co.....   | December 6..  | December 7..  | 126                       | 95               |
| Metapan.....          | United Fruit Co.....             | December 7..  | December 7..  | 11                        | 4                |
| Panama.....           | Panama Railroad Steamship Line.. |               | December 9..  |                           | 1,432            |
| Oruba.....            | Pacific Steam Navigation Co..... | December 7..  | December 7..  | ( <sup>2</sup> )          |                  |
| La Paz.....           | Pacific Steam Navigation Co..... |               | December 8..  |                           | 254              |
| Balboa.....           | Caribbean Steamship Co.....      | December 8..  |               | 610½                      |                  |
| Cuba.....             | Pacific Mail Steamship Co.....   | December 8..  |               | 410                       |                  |
| Manavi.....           | Pacific Steam Navigation Co..... | December 8..  |               | 736                       |                  |
| Jamaica.....          | Pacific Steam Navigation Co..... | December 9..  |               | 14                        |                  |
| Acajutla.....         | Pacific Steam Navigation Co..... | December 9..  |               | 116                       |                  |
| Venezuela.....        | Royal Netherlands W. I. Mail..   | December 9..  | December 9..  | 83                        | ( <sup>2</sup> ) |
| Venezuela.....        | Pacific Mail Steamship Co.....   | December 9..  | December 10.. | 53                        | 202              |
| San Gil.....          | United Fruit Co.....             | December 10.. | December 10.. | 30                        | 263              |
| William Green.....    | Huasteca Petroleum Co.....       | December 10.. |               | 10,000                    |                  |
| Colon.....            | Panama Railroad Steamship Line.. | December 10.. |               | 1,418                     |                  |

<sup>1</sup> Dutch.

<sup>2</sup> No cargo discharged.

<sup>3</sup> No cargo laded.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 10, 1921.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.          | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line.     | Length.                    | Beam.                          | Salt water draft. | From— | For— | Cargo.  |            | Panama Canal tonnage. |                |       |       |  |
|----------------|------------------|-------|----------------|-------|--------------------|-------|--------------|-----------|----------------------------|--------------------------------|-------------------|-------|------|---------|------------|-----------------------|----------------|-------|-------|--|
|                | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |           |                            |                                |                   |       |      | Nature. | Tons.      | Gross.                | Net.           |       |       |  |
| Tacoma Maru.   | 3                | 23 35 | 4              | 6 25  | 4                  | 14 11 | 4            | 15 35     | Japanese.                  | Osaka Shosen Kaisha.           | 440               | 0     | 51   | 0       | 24 6       | General.              | 3,934          | 6,146 | 4,241 |  |
| Algonia.       | 26               | 19 05 | 4              | 6 30  | 4                  | 14 11 | 4            | 15 38     | American.                  | United States Navy.            | 148               | 0     | 30   | 0       | 15 0       | Cristobal.            | Balboa.        |       |       |  |
| Prinax.        |                  |       | 5              | 7 00  | 5                  | 13 27 | 5            | 20 35     | American.                  | United States Navy.            | 156               | 0     | 24   | 0       | 15 0       | Cristobal.            | Auckland.      |       |       |  |
| Mahana.        | 5                | 7 40  | 5              | 8 20  | 5                  | 13 30 | 5            | 15 50     | British.                   | Shaw, Saville & Albion Co.     | 501               | 0     | 63   | 0       | 27 5       | Liverpool.            | Vancouver.     |       |       |  |
| Chancellor.    | 5                | 6 13  | 6              | 8 10  | 6                  | 14 14 | 6            | 15 30     | British.                   | Charante Steamship Co.         | 385               | 0     | 52   | 0       | 19 8       | Liverpool.            | Guayaquil.     |       |       |  |
| Salvador.      | 30               | 15 40 | 6              | 6 24  | 6                  | 13 40 | 6            | 17 15     | British.                   | Pacific Steam Navigation Co.   | 213               | 0     | 33   | 0       | 13 1       | Cristobal.            | Talara.        |       |       |  |
| Arcture.       | 6                | 12 49 | 6              | 7 35  | 6                  | 13 49 | 6            | 17 05     | American.                  | Standard Oil Co.               | 449               | 0     | 59   | 0       | 19 6       | New York.             |                |       |       |  |
| Ernest.        | 4                | 19 08 | 7              | 6 20  | 7                  | 14 00 | 7            | 15 10     | American.                  | Panama Railroad Steamship Line | 356               | 4     | 45   | 3       | 20 9       | New York.             | Guayaquil.     |       |       |  |
| Edithelstan.   | 6                | 15 48 | 7              | 6 22  | 7                  | 14 59 | 7            | 16 20     | British.                   | Rhondda Merthyr S. S. Co.      | 340               | 0     | 47   | 0       | 24 6       | Cardiff.              | San Francisco. |       |       |  |
| F. J. Lucken-  |                  |       |                |       |                    |       |              |           |                            |                                |                   |       |      |         |            |                       |                |       |       |  |
| Luckenbach.    | 6                | 20 50 | 7              | 7 15  | 7                  | 15 26 | 7            | 16 30     | American.                  | Luckenbach Line.               | 446               | 0     | 56   | 0       | 20 3       | New York.             | Seattle.       |       |       |  |
| Fukuyo Maru.   | 6                | 23 49 | 7              | 9 05  | 7                  | 16 36 | 7            | 18 00     | Japanese.                  | Toyo Kisen Kaisha.             | 400               | 0     | 53   | 0       | 26 0       | New York.             | Shanghai.      |       |       |  |
| Portland Maru. | 7                | 6 15  | 7              | 11 05 | 7                  | 18 48 | 7            | 19 55     | Japanese.                  | Kokosai Kisen Kaisha.          | 385               | 0     | 51   | 0       | 26 4       | New York.             | Kobe.          |       |       |  |
| Minnequa.      | 7                | 11 43 | 7              | 12 05 | 7                  | 19 27 | 8            | 1 53      | American.                  | Wessel Duval & Co. (S. B.)     | 390               | 0     | 54   | 0       | 18 0       | New York.             | Talcahuano.    |       |       |  |
| Baron Jud-     |                  |       |                |       |                    |       |              |           |                            |                                |                   |       |      |         |            |                       |                |       |       |  |
| burgh.         | 7                | 13 00 | 8              | 6 22  | 8                  | 14 03 | 8            | 15 05     | British.                   | H. Hogarth & Sons.             | 410               | 0     | 54   | 0       | 25 0       | Cardiff.              | Honolulu.      |       |       |  |
| Tarao.         | 7                | 15 25 | 8              | 7 42  | 8                  | 15 06 | 8            | 16 25     | British.                   | Shaw, Saville & Albion Co.     | 477               | 0     | 62   | 9       | 26 6       | London.               | Bluff.         |       |       |  |
| La Paz.        | 7                | 6 24  | 8              | 8 15  | 8                  | 15 58 | 8            | 23 45     | British.                   | Pacific Steam Navigation Co.   | 406               | 0     | 54   | 2       | 18 6       | Hull.                 | Vidmariso.     |       |       |  |
| Tacoma.        | 7                | 18 20 | 8              | 8 50  | 8                  | 17 00 | 8            | 19 00     | American.                  | United States Navy.            | 308               | 0     | 44   | 0       | 17 0       | Habana.               | Balboa.        |       |       |  |
| Advance.       | 4                | 14 15 | 8              | 10 59 | 8                  | 13 28 | 8            | 15 30     | American.                  | Panama Railroad Steamship Line | 295               | 0     | 38   | 4       | 16 3       | New York.             | Gatun Lake.    |       |       |  |
| Trieler.       | 8                | 7 10  | 8              | 11 55 | 8                  | 18 23 | 8            | 19 30     | Norwegian.                 | W. Wilhelmssen.                | 331               | 0     | 50   | 1       | 17 6       | Buenos Aires.         | San Francisco. |       |       |  |
| Manuel.        | 6                | 8 40  | 9              | 6 30  | 9                  | 9 20  | 9            | 10 20     | American.                  | Panama Railroad Steamship Line | 352               | 0     | 52   | 0       | 11 0       | Norfolk.              | Gatun Lake.    |       |       |  |
| Alaskan.       | 9                | 9 54  | 9              | 10 12 | 9                  | 16 55 | 9            | 18 15     | American.                  | American-Hawaiian Line.        | 470               | 0     | 57   | 2       | 17 6       | Boston.               | Tacoma.        |       |       |  |
| Edward Luck-   |                  |       |                |       |                    |       |              |           |                            |                                |                   |       |      |         |            |                       |                |       |       |  |
| enbach.        | 9                | 12 10 | 9              | 13 10 | 9                  | 19 53 | 9            | 20 43     | American.                  | Luckenbach Line.               | 436               | 0     | 57   | 0       | 19 0       | Philadelphia.         | Los Angeles.   |       |       |  |
| Golden Gate.   | 8-15             | 20 41 | 10             | 6 10  | 10 14              | 10 56 | 10 16        | 15        | American.                  | Rolyh Navigation Co.           | 293               | 0     | 42   | 0       | 15 0       | Manchester.           | San Francisco. |       |       |  |
| Venezuela.     | 9                | 16 40 | 10             | 11 02 | 10 17              | 20 11 | 17 24        | American. | Pacific Mail Steamship Co. | 380                            | 0                 | 48    | 7    | 22 0    | Baltimore. | San Francisco.        |                |       |       |  |

Bark.

Barge.

Cruiser.

Motor ship.

Tug.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                  |   |    |    |   |   |    |   |    |    |   |    |    |           |                               |     |   |    |   |    |   |                 |           |         |       |       |       |
|------------------|---|----|----|---|---|----|---|----|----|---|----|----|-----------|-------------------------------|-----|---|----|---|----|---|-----------------|-----------|---------|-------|-------|-------|
| Morristown.....  | 3 | 23 | 30 | 4 | 8 | 10 | 4 | 16 | 25 | 4 | 19 | 15 | American. | Barber Steamship Line (S. B.) | 377 | 0 | 52 | 0 | 23 | 6 | Ilo Ilo.....    | New York. | Sugar   | 6,047 | 5,206 | 3,743 |
| Nitkris.....     | 4 | 6  | 30 | 4 | 8 | 37 | 4 | 16 | 22 | 4 | 17 | 11 | German.   | Kosmos Line                   | 411 | 8 | 50 | 7 | 26 | 5 | Punatarens..... | Hamburg.  | General | 6,014 | 6,652 | 4,704 |
| Odrid.....       | 3 | 20 | 00 | 4 | 9 | 43 | 4 | 18 | 00 | 4 | 21 | 30 | British.  | Shakespeare Shipping Co.      | 365 | 8 | 47 | 0 | 21 | 6 | Talal.....      | Venice    | Nitrile | 5,316 | 4,293 | 3,008 |
| Santa Luisa..... | 5 | 5  | 00 | 5 | 8 | 08 | 5 | 14 | 16 | 5 | 21 | 42 | American. | Grace Line.                   | 380 | 2 | 51 | 6 | 20 | 6 | Talcahuano      | New York. | General | 1,878 | 5,694 | 3,975 |





### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending December 10, 1921.

| Name of vessel.  | Line or charterer.                | Arrived.      | Departed.     | Cargo—     |        |
|------------------|-----------------------------------|---------------|---------------|------------|--------|
|                  |                                   |               |               | Discharged | Laded. |
|                  |                                   |               |               | Tons.      | Tons.  |
| Laurelleaf ..... | Anglo-Saxon Petroleum Co. ....    | December 3 .. | December 6 .. | 7,493      |        |
| Gorjistan .....  | H. M. H. Nemazee .....            | December 4 .. | December 7 .. | 3          |        |
| Ecuador .....    | Pacific Mail Steamship Co. ....   | December 5 .. | December 6 .. | 146        |        |
| Salvador .....   | Pacific Steam Navigation Co. .... | December 6 .. | December 6 .. |            | 8      |
| Cuba .....       | Pacific Mail Steamship Co. ....   | December 8 .. | December 8 .. | 8          |        |
| Acajutla .....   | Pacific Steam Navigation Co. .... | December 9 .. | December 9 .. | 1          |        |

### Ships at Canal Repair Shops.

The following vessels were at the Balboa shops for repairs during the two weeks ended December 13:

Dredges *No. 84*, dock and undock; stage and clean; scale bottom; paint bottom up to light load line, 2 coats of anticorrosive and 1 coat of antifouling; rebush ladder drum, install new gear and make new shaft if necessary; repair broken casting on winding gear pedestals; install 2 new Globe valves on blow-down from boilers; install new water glass gauge cocks on both blowers; set up pump and overhaul suction line on same; install hangers on circulating pump line and fire lines; install new pins in cutter engine crank shaft; line up H. P. and L. P. engine and install new crosshead pins; manufacture new brass distance collar for cutter engine; connect up drain from capstan engine as per information to chief engineer; renew salt water line to main pump where necessary and renew salt water line from pump to cutter; repair lower fenders; fit patches; weld butt straps and bad order rivets; *No. 83*, dock and undock; stage and clean; scale bottom; paint bottom up to light load line; 2 coats of anticorrosive and 1 coat of antifouling; overhaul sea valves; test tanks and stop leaks; redrive or weld all loose rivets in hull, under water; repair lower fender irons, electric weld butt straps and bad order rivets in fender irons; steamship *Lady Sybil*, dock and undock; paint bottom and perform running repairs on main engine, feed pump, air pump, circulating pump, general service pump, forward fan engine, evaporator; calibrate gauges; repair whistle valve; install new fresh water hand pump and pipe; repairs to sanitary system in captain's and crew's quarters; test and repair boiler (4 furnaces), manufacture 2 coils for Dahl fuel oil heater, repairs to deck plates over end of hawse pipe; renew rungs and hand grabs in hold ladders, repair stanchions, rail, accommodation ladder, port lights, boatswain's lockers, sea valves, and miscellaneous light repairs; motor ship *Chiralite*, in addition to work reported on previous work report it has been found necessary to dock and undock, recopper and repair hull, repair sea valves, shaft logs, manufacture portable bulkheads between engine room and cargo holds, install manhole plate and fresh water tank, fair propeller blades, general repairs to main engine and clutch; install foundation plates for thrust blocks, manufacture and install 2 new thrust blocks, line up shafts; manufacture and install water jacketed exhaust pipes to stack; install new fresh water hand pump and repair cargo hand winch.

### PREVIOUSLY REPORTED.

Launch *No. 405*, installation of new engine bed, repairs to rudder, rudder post, and renewal of defective copper; steamship *Panama*, reboiling and general repairs to machinery and hull.

The following vessels were at the Cristobal shops for repairs during the week ended December 12:

Steamship *La Navarre*, manufacture 65 valves; repair pump and steam pipes; U. S. S. *Nitro*, manufacture 1 pinion gear drive shaft; steamship *Achilles*, clean tubes; make 2 bearing caps for winch; renew 15 holding-down bolts on main engines; paint boot topping; overhaul speaking-tube system and engine room telegraph, etc.; barges *Nos. 20 and 49*, clean, scale, and paint, renew rivets where necessary and test tanks; steamships *Balboa*, repair valve spindle and clean boilers; *Cuba*, make tail rod for line pump and 1 disk for injector valve; *Jason*, repair air pump; U. S. D. B. launch *L-53*, open up engine and clutch for inspection and estimate; supply boat *No. 1*, install new cylinder; steamships *Venezuela*, free up anchor windlass; true up L. P. and H. P. slippers; fit liners on H. P. and L. P. crank brasses; *Panama*, *Jamaica*, *Zacapa*, *Katherine Parks* and barge *Mamei*, minor repairs.

# THE PANAMA CANAL RECORD

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at Cristobal, C. Z., under the Act of March 3, 1879.



Volume XV. Balboa Heights, C. Z., December 21, 1921. No. 19.

## Flat Price Contracts for Work Performed by The Panama Canal.

The Panama Canal has adopted a policy of making flat price contracts for work performed by its departments and divisions, where practicable, in place of the former "cost plus" system. The practice applies both to work for the departments of the Government and to work for individuals and companies.

The practice of setting a price for a job and adhering to it was adopted for two principal reasons. One is that it should attain economy in the Canal organization. It will throw directly on the organization doing the work any loss from failure to perform efficiently, and hence increase the direct responsibility and active interest of all involved. The other is that for work performed for individuals and companies, especially steamship repairs and salvage work, it is frequently essential to quote an absolute and fixed price which will not be exceeded. In some cases the decision whether to have certain work performed rests on knowing accurately what it would cost, and in many others it avoids suspense and misunderstandings and irritation to be able to make a definite contract.

The official circular establishing the new practice is No. 642-5, dated November 26, 1921, and published in THE PANAMA CANAL RECORD of December 7. Costs will be estimated and charged as before, and for any interest that desires work to be done for a flat rate, about 10 per cent of the estimated cost is to be added to insure against loss. That is, it is supposed to insure against loss; but if it does not, the interest for which the work is being done will not bear the loss.

## Supplement No. 7 to Tariff No. 5.—Coal.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., December 19, 1921.

### ITEM 21.—COAL.

(Effective December 15, 1921.)

Cristobal-Colon.

The following is added to paragraph 1:

The price of coal taken from the Cristobal coaling plant in over 1,000-ton lots, by vessels transiting the Canal, will be, per ton of 2,240 pounds.....

\$10.00

The following is added to paragraph 3:

If all, or any part, not less than 50 tons, of the more than 1,000-ton lots authorized to be sold at the coaling plant at \$10 per ton under paragraph 1 above, is delivered in lighters, the price of such coal delivered in lighters will be, per ton of 2,240 pounds.....

\$11.00

NOTE—For vessels transiting the Canal and taking between 833 and 1,000 tons of coal at Cristobal, the maximum charge will not exceed that for 1,000 tons at the rates prescribed in the two paragraphs above.

JAY J. MORROW,  
Governor, The Panama Canal.  
President, Panama Railroad Company.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 17, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.               | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Salt draft. | From— | For—          | Cargo.            |        | Panama Canal tonnage. |        |
|---------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------------|-------|---------------|-------------------|--------|-----------------------|--------|
|                     | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |             |       |               | Nature.           | Tons.  | Gross.                | Net.   |
| Calzadilla          | 10               | 14    | 48             | 11    | 6                  | 35    | 17               | 15    | British      | Imperial Oil Co.                 | 480     | 0     | 18          | 0     | Talara        | Ballast           | 3,400  | 8,491                 | 6,096  |
| Alia                | 10               | 1     | 51             | 11    | 7                  | 27    | 11               | 15    | German       | Roland Steamship Line            | 360     | 0     | 50          | 0     | Corral        | General           | 4,791  | 3,392                 |        |
| Kofu Maru           | 10               | 7     | 53             | 11    | 8                  | 25    | 11               | 17    | Japanese     | Suzuki & Co.                     | 388     | 0     | 25          | 6     | Portland      | Genent            | 7,083  | 5,812                 | 4,003  |
| Tsinaru             | 10               | 23    | 13             | 11    | 9                  | 20    | 11               | 17    | Swedish      | Transatlantic Steamship Co.      | 425     | 0     | 55          | 0     | Yokohama      | Cotton, etc       | 7,597  | 7,601                 | 5,346  |
| Havre Maru          | 11               | 2     | 50             | 11    | 10                 | 04    | 11               | 18    | Japanese     | Ozaka Shosen Kaisha              | 407     | 3     | 50          | 1     | Singapore     | General           | 6,648  | 6,234                 | 4,406  |
| No. 2               | 11               | 5     | 05             | 11    | 10                 | 58    | 11               | 18    | American     | Barber Steamship Line (S. B.)    | 440     | 0     | 55          | 0     | Kobe          | General, case oil | 10,212 | 8,315                 | 6,100  |
| Archer              | 11               | 10    | 06             | 11    | 11                 | 41    | 11               | 19    | British      | Dollar Steamship Line            | 483     | 6     | 57          | 0     | Yokohama      | General           | 6,887  | 9,873                 | 7,133  |
| Esther Dollar       | 11               | 14    | 15             | 12    | 11                 | 40    | 12               | 15    | British      | C. T. Bowring & Co.              | 435     | 3     | 55          | 9     | Tokyo         | Rubber oil        | 9,300  | 7,406                 | 5,311  |
| Lompe               | 11               | 14    | 15             | 12    | 12                 | 15    | 12               | 16    | British      | Transatlantic Steamship Co.      | 420     | 0     | 54          | 0     | Kobe          | Cotton, etc       | 9,188  | 7,059                 | 5,226  |
| Anten               | 11               | 22    | 48             | 12    | 7                  | 20    | 12               | 16    | Swedish      | Transatlantic Steamship Co.      | 420     | 0     | 54          | 0     | Kobe          | Cotton, etc       | 9,188  | 7,059                 | 5,226  |
| Florence Luckenbach | 11               | 22    | 55             | 12    | 8                  | 15    | 12               | 17    | American     | Luckenbach Line                  | 401     | 8     | 52          | 0     | Los Angeles   | General           | 5,007  | 6,002                 | 4,638  |
| Stanley Dollar      | 12               | 3     | 43             | 12    | 8                  | 55    | 12               | 18    | American     | Dollar Line                      | 288     | 8     | 42          | 0     | Los Angeles   | General           | 3,250  | 3,460                 | 2,404  |
| Bahia               | 8                | 18    | 35             | 12    | 9                  | 43    | 12               | 18    | American     | Colombian Maritime Co.           | 390     | 0     | 59          | 1     | New York      | General           | 81     | 741                   | 350    |
| Jamaica             | 9                | 3     | 20             | 12    | 9                  | 43    | 12               | 18    | British      | Pacific Steam Navigation Co.     | 220     | 0     | 34          | 0     | Cristobal     | General           | 318    | 1,187                 | 622    |
| Hualaga             | 6                | 19    | 55             | 12    | 11                 | 03    | 12               | 19    | Peruvian     | Peruvian Line                    | 360     | 0     | 44          | 0     | Buenaventura  | General           | 189    | 437                   | 238    |
| Manavi              | 8                | 19    | 15             | 12    | 11                 | 03    | 12               | 20    | British      | Pacific Steam Navigation Co.     | 216     | 0     | 33          | 1     | Callao        | General           | 127    | 1,337                 | 854    |
| Victoria            | 12               | 2     | 32             | 12    | 12                 | 00    | 12               | 20    | British      | Pacific Steam Navigation Co.     | 401     | 4     | 52          | 0     | Cristobal     | General           | 1,235  | 6,887                 | 4,575  |
| Hawkeye State       | 13               | 16    | 53             | 13    | 7                  | 39    | 13               | 14    | American     | Mason Navigation Co. (S. B.)     | 535     | 0     | 72          | 0     | Liverpool     | General           | 165    | 13,284                | 10,471 |
| Willpolo            | 12               | 11    | 00             | 13    | 19                 | 33    | 13               | 17    | American     | Pacific Steam Navigation Co.     | 412     | 0     | 52          | 0     | Baltimore     | General           | 4,890  | 5,680                 | 4,112  |
| Dacre Castle        | 13               | 1     | 07             | 13    | 11                 | 45    | 13               | 19    | British      | Williams Steamship Co.           | 336     | 8     | 52          | 0     | New York      | General           | 7,100  | 5,816                 | 4,112  |
| Santa Ana           | 12               | 6     | 50             | 13    | 12                 | 19    | 13               | 20    | British      | James Chambers & Co.             | 442     | 0     | 52          | 0     | Philadelphia  | General           | 1,800  | 4,321                 | 3,120  |
| Borgland            | 13               | 12    | 22             | 14    | 6                  | 20    | 14               | 13    | Dutch        | Royal Netherlands W. I. Mail     | 360     | 2     | 51          | 6     | Amsterdam     | General           | 1,737  | 5,770                 | 4,081  |
| City of Tokio       | 13               | 15    | 20             | 14    | 6                  | 25    | 14               | 14    | Norwegian    | W. R. Grace & Co.                | 382     | 0     | 51          | 5     | New York      | General           | 3,980  | 5,271                 | 3,886  |
| Moerdijk            | 13               | 9     | 40             | 14    | 7                  | 22    | 14               | 15    | British      | Peter Olsen & Co.                | 442     | 0     | 59          | 0     | Christiania   | General           | 9,200  | 9,035                 | 6,933  |
| Theodore            | 12               | 23    | 45             | 14    | 8                  | 00    | 14               | 16    | Dutch        | Ellerman Hall Line               | 472     | 8     | 61          | 1     | New York      | General           | 5,663  | 9,165                 | 6,911  |
| Rosevelt            | 13               | 14    | 30             | 14    | 8                  | 35    | 14               | 17    | Norwegian    | Fred Olsen & Co.                 | 425     | 5     | 55          | 2     | Rotterdam     | General           | 8,000  | 7,593                 | 5,637  |
| Lelich              | 14               | 12    | 04             | 14    | 9                  | 31    | 14               | 19    | American     | N. Atl. & Western Co. (S. B.)    | 390     | 0     | 54          | 0     | Christiania   | General           | 2,011  | 6,106                 | 4,346  |
| Bahia               | 13               | 18    | 23             | 14    | 12                 | 07    | 14               | 19    | Swedish      | Johnson Steamship Line           | 426     | 9     | 56          | 2     | Stockholm     | General           | 950    | 7,480                 | 5,553  |
| Montgomery          | 14               | 12    | 38             | 14    | 12                 | 53    | 14               | 21    | American     | United States Steel Products Co. | 424     | 2     | 46          | 2     | New Orleans   | General           | 8,260  | 7,539                 | 5,418  |
| Hazel Branch        | 14               | 8     | 35             | 14    | 13                 | 21    | 14               | 22    | British      | F. and W. Ritson                 | 400     | 1     | 51          | 2     | Port Talbot   | General           | 3,320  | 3,176                 | 3,587  |
| General Getty       | 13               | 15    | 59             | 14    | 7                  | 50    | 14               | 15    | American     | United States Army               | 404     | 2     | 46          | 2     | Cristobal     | General           | 2,500  | 3,429                 | 2,206  |
| Cuba                | 8                | 17    | 48             | 15    | 6                  | 19    | 15               | 14    | American     | Pacific Mail Steamship Co.       | 308     | 0     | 42          | 0     | San Francisco | General           | 2,500  | 3,429                 | 2,206  |
| Hanna Nielsen       | 14               | 23    | 04             | 15    | 9                  | 10    | 15               | 17    | Norwegian    | B. Stolt-Nielsen                 | 409     | 0     | 53          | 0     | Cristobal     | Coal              | 5,000  | 6,600                 | 5,019  |

\* Mine planter.

\* Motor ship.



3 Cayuco No. 2064.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                            | 16 | 4 07  | 16 | 6 20  | 16 | 17 11 | 16 | 18 05 | American... | American-Hawaiian Line           | 406.8 | 51.0 | 20.4 | New York      | Los Angeles. | General            | 2,460  | 5,988  | 4,226 |
|----------------------------|----|-------|----|-------|----|-------|----|-------|-------------|----------------------------------|-------|------|------|---------------|--------------|--------------------|--------|--------|-------|
| American City of Edinburgh | 15 | 21 53 | 16 | 10 35 | 16 | 18 57 | 16 | 20 30 | British     | Ellerman Lines, Ltd              | 459.0 | 52.5 | 25.6 | New York      | Auckland     | General            | 4,911  | 7,921  | 5,823 |
| Koshiolm.                  | 16 | 7 58  | 16 | 11 45 | 16 | 20 18 | 16 | 21 35 | Danish      | Rehuter Thomsen & Co.            | 331.0 | 46.0 | 20.0 | Carlinf.      | Iquique.     | Patent fuel.       | 3,750  | 2,974  | 2,058 |
| Canadian                   | 15 | 20 11 | 16 | 12 16 | 16 | 20 25 | 16 | 23 20 | British     | Canadian Government              | 430.0 | 56.0 | 26.5 | Halifax       | Melbourne.   | General, case oil. | 5,200  | 7,680  | 5,494 |
| Victoria                   | 15 | 20 05 | 17 | 6 22  | 17 | 15 29 | 17 | 17 55 | Panama      | Thomas B. Radio                  | 361.0 | 46.0 | 14.6 | Cristobal     | Gatun Lake.  | General            | 395    | 4,742  | 3,023 |
| Quilpe.                    | 16 | 17 00 | 17 | 10 56 | 17 | 18 31 | 17 | 20 05 | British     | Pacific Steam Navigation Co.     | 436.0 | 57.0 | 23.3 | New York      | Guayaquil    | General            | 1,045  | 9,089  | 6,215 |
| Elro.                      | 17 | 5 57  | 17 | 11 43 | 17 | 19 30 | 18 | 2 30  | British     | Pacific Steam Navigation Co.     | 410.0 | 45.0 | 18.2 | Antwerp.      | Valparaiso   | General            | 4,846  | 7,027  | 5,338 |
| Australian                 | 16 | 21 37 | 17 | 12 50 | 17 | 19 38 | 18 | 1 00  | American.   | East Asiatic Steamship Co.       | 306.0 | 45.0 | 17.6 | New York.     | Chile        | General, cement    | 1,653  | 3,228  | 2,010 |
| Garfield                   | 16 | 21 37 | 17 | 12 50 | 17 | 19 38 | 18 | 1 00  | American.   | W. R. Grace & Co.                | 306.0 | 45.0 | 17.6 | New York.     | Salvador     | General            | 1,653  | 3,228  | 2,010 |
|                            |    |       |    |       |    |       |    |       |             |                                  |       |      |      |               |              |                    |        |        |       |
| Katherine Park.            |    |       |    |       |    |       |    |       |             |                                  |       |      |      |               |              |                    |        |        |       |
| La Habra.                  | 10 | 20 00 | 11 | 7 56  | 11 | 15 35 | 12 | 8 55  | British     | S. and J. Thompson               | 382.2 | 52.2 | 25.0 | Portland.     | Falmouth.    | Wheat              | 5,987  | 6,247  | 4,872 |
| St. Louis.                 | 11 | 1 30  | 11 | 8 40  | 11 | 15 35 | 12 | 18 45 | Norwegian   | W. Wilhelmsen                    | 424.8 | 57.0 | 19.0 | Antofagasta.  | Tampico.     | Ballast            | 7,053  | 5,051  |       |
| Sea Voyager.               | 11 | 19 39 | 12 | 9 38  | 12 | 14 52 | 13 | 15 32 | American    | United States Steel Products Co. | 395.5 | 55.0 | 25.0 | San Diego     | Liverpool    | Barley, general    | 6,682  | 7,285  | 5,256 |
| Andalusia.                 | 11 | 22 10 | 12 | 7 45  | 12 | 15 30 | 12 | 15 30 | Swedish     | Svenska Lloyd                    | 236.1 | 42.1 | 18.9 | Valparaiso    | New Orleans  | Nitrate of soda    | 2,121  | 5,758  | 3,813 |
| Architect.                 | 12 | 2 00  | 12 | 8 37  | 12 | 16 15 | 14 | 13 05 | British     | T. and J. Harrison               | 410.6 | 52.3 | 25.6 | San Francisco | Liverpool.   | General            | 6,600  | 6,245  | 4,305 |
| Pilar de Larina.           | 12 | 9 45  | 12 | 10 45 | 12 | 18 22 | 12 | 21 20 | British     | Larinaga & Co.                   | 445.0 | 58.0 | 26.6 | Seattle       | Europe       | Wheat              | 9,575  | 7,643  | 5,562 |
| Baron Incheape             | 13 | 0 30  | 13 | 8 28  | 13 | 17 12 | 13 | 18 45 | British     | H. Hogarth & Sons                | 425.8 | 56.2 | 26.3 | Nauru Island  | United King  | Phosphates         | 8,900  | 7,051  | 5,245 |
| Ortega                     | 13 | 19 15 | 14 | 7 53  | 14 | 16 37 | 14 | 20 00 | British     | Pacific Steam Navigation Co.     | 465.3 | 56.3 | 24.0 | Talcahuano    | Liverpool    | General            | 3,424  | 8,345  | 4,998 |
| Essequibo.                 | 14 | 6 30  | 14 | 8 49  | 14 | 16 58 | 15 | 12 08 | British     | Pacific Steam Navigation Co.     | 450.3 | 57.8 | 21.0 | Valparaiso    | New York     | General            | 1,184  | 9,037  | 6,089 |
| Selanda.                   | 14 | 17 45 | 15 | 7 34  | 15 | 15 02 | 15 | 17 20 | Danish      | East Asiatic Co.                 | 370.0 | 53.2 | 23.1 | Pisagua.      | Liverpool.   | General            | 6,328  | 5,441  | 4,090 |
| Henderson.                 | 14 | 5 00  | 15 | 7 42  | 15 | 15 32 | 15 | 17 20 | American.   | United States Navy               | 480.0 | 60.0 | 26.0 | Bremerton     | New York     | General            | 7,000  | 7,473  | 5,624 |
| Robin Good-fellow          | 14 | 19 30 | 15 | 8 53  | 15 | 17 07 | 15 | 17 20 | American.   | The Robin Line Steamship Co.     | 424.8 | 55.2 | 25.0 | Vancouver     | New York     | General            | 1,373  | 4,768  | 2,956 |
| Quilota                    | 14 | 22 30 | 15 | 10 51 | 15 | 18 23 | 16 | 15 03 | British     | Pacific Steam Navigation Co.     | 361.4 | 46.2 | 17.2 | Guayaquil     | New York     | General            | 4,915  | 3,752  | 2,762 |
| Wissum.                    | 15 | 12 40 | 15 | 13 15 | 15 | 21 05 | 15 | 21 05 | Dutch       | Vinka & Co.                      | 331.9 | 51.4 | 20.6 | Iquique.      | Leghorn      | Nitrate            |        |        |       |
| Barge No. 67.              | 15 | 14 50 | 16 | 18 40 | 16 | 18 40 | 18 | 3 04  | American.   | Panama Manganeses Co             | 314.0 | 31.0 | 9.6  | Balboa        | Cristobal    | General            |        |        |       |
| Litchfield.                | 12 | 12 00 | 16 | 6 39  | 16 | 15 25 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 30.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| Cogblan.                   | 12 | 12 00 | 16 | 6 57  | 16 | 15 31 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 30.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| Preston.                   | 12 | 12 00 | 16 | 7 39  | 16 | 15 55 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| Lamson.                    | 12 | 12 00 | 16 | 7 52  | 16 | 16 00 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| Bruce.                     | 12 | 12 00 | 16 | 8 10  | 16 | 17 10 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| Edsall.                    | 12 | 12 00 | 16 | 8 13  | 16 | 17 15 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| MacLeish.                  | 12 | 12 00 | 16 | 8 26  | 16 | 17 27 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| Bulmer.                    | 12 | 12 00 | 16 | 8 47  | 16 | 17 40 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| McCormick.                 | 12 | 12 00 | 16 | 8 51  | 16 | 17 40 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| Parrott.                   | 12 | 12 00 | 16 | 9 13  | 16 | 17 43 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| Simpson.                   | 12 | 12 00 | 16 | 9 13  | 16 | 17 43 | 16 | 17 43 | American.   | United States Navy               | 314.0 | 31.0 | 11.0 | San Diego     | Charleston   | General            |        |        |       |
| A. L. Kent.                | 15 | 23 30 | 16 | 11 37 | 16 | 19 05 | 16 | 19 05 | American.   | Crowell & Thurlow                | 394.1 | 55.1 | 26.2 | Everett       | Charleston   | General            | 6,828  | 7,047  | 5,136 |
| Renaco.                    | 16 | 1 30  | 16 | 11 43 | 16 | 20 50 | 17 | 11 12 | Chilean.    | Chilean Line                     | 412.0 | 50.5 | 25.8 | Valparaiso    | Baltimore    | Lumber             | 2,893  | 6,050  | 3,442 |
| Ossage.                    | 16 | 1 30  | 16 | 13 35 | 16 | 22 53 | 17 | 2 03  | American.   | Moore & McCormack Co. (S. B.)    | 395.1 | 49.7 | 21.6 | Seattle       | Liverpool    | General            | 5,620  | 5,220  | 3,734 |
| Willhilo.                  | 16 | 22 00 | 17 | 7 41  | 17 | 15 15 | 17 | 15 29 | American.   | Williams Steamship Co.           | 434.3 | 57.7 | 23.0 | Seattle       | New Orleans  | General            | 6,000  | 7,983  | 5,582 |
| Tainui.                    | 17 | 1 30  | 17 | 7 41  | 17 | 16 25 | 18 | 8 20  | British     | Shaw, Saville & Albion Co.       | 477.8 | 61.1 | 28.9 | Auckland      | New York     | General            | 5,545  | 10,631 | 7,806 |
| Murla.                     | 17 | 3 00  | 17 | 9 38  | 17 | 17 45 | 17 | 23 30 | German      | Roland Line                      | 207.0 | 42.0 | 20.1 | San Jose de   | London       | C. S. and general  | 365    | 2,158  | 1,361 |
| Honolulu Maru.             | 17 | 10 30 | 17 | 11 11 | 17 | 18 40 | 17 | 20 10 | Japanese    | Osaka Shosen Kaisha              | 467.3 | 50.8 | 21.0 | Guatemala.    | New York     | General            | 5,175  | 6,250  | 4,350 |
| K. R. Kingsley.            | 17 | 6 45  | 17 | 12 16 | 17 | 19 55 | 17 | 19 55 | American.   | Standard Oil Co.                 | 440.0 | 58.2 | 29.6 | San Francisco | London.      | Lubricating oil    | 10,898 | 9,058  | 5,968 |

1 Box shooks and general.

2 For orders.

3 Destroyer.

4 Transport.

## MOVEMENTS OF OCEAN VESSELS—Continued.

## PORT OF CRISTOBAL.

| *ARRIVALS. |                       |                                 | *DEPARTURES.                           |          |                       |                                 |                                               |
|------------|-----------------------|---------------------------------|----------------------------------------|----------|-----------------------|---------------------------------|-----------------------------------------------|
| Date.      | Vessel.               | Line.                           | From—                                  | Date.    | Vessel.               | Line.                           | For—                                          |
| Dec. 11.   | Coppename             | United Fruit Co.                | New Orleans via Habana.                | Dec. 11. | Coppename             | United Fruit Co.                | Bocas del Toro.                               |
| Dec. 12.   | Venezuela             | Royal Netherlands W. I. Mail.   | Port Limon.                            | Dec. 11. | William Green.        | Pan.-Amer. Pet. and Transp. Co. | Mata Redondo.                                 |
| Dec. 12.   | Zacapa                | United Fruit Co.                | New Orleans.                           | Dec. 12. | Achilles <sup>1</sup> | Panama Railroad Steamship Line. | Norfolk.                                      |
| Dec. 13.   | Calamares             | United Fruit Co.                | New York via Habana.                   | Dec. 14. | Venezuela             | Royal Netherlands W. I. Mail    | Puerto Colombia.                              |
| Dec. 13.   | Caribbean             | Panama Railroad Steamship Line. | Cartagena.                             | Dec. 14. | Calamares             | United Fruit Co.                | New York via Port Limon<br>and Habana.        |
| Dec. 14.   | Coppename             | United Fruit Co.                | Bocas del Toro.                        | Dec. 14. | Coppename             | United Fruit Co.                | New Orleans.                                  |
| Dec. 14.   | Trivives              | United Fruit Co.                | New York via Kingston.                 | Dec. 15. | Zacapa                | United Fruit Co.                | New Orleans via Bocas del<br>Toro and Habana. |
| Dec. 14.   | Turrialba             | United Fruit Co.                | New York via Kingston<br>and Colombia. | Dec. 15. | Turrialba             | United Fruit Co.                | New York via Kingston.                        |
| Dec. 16.   | Corbis                | Anglo-Saxon Petroleum Co.       | Curacao.                               | Dec. 15. | Trivives              | United Fruit Co.                | Colombian ports.                              |
| Dec. 16.   | Camden                | United Fruit Co.                | Tampico.                               | Dec. 15. | Colon                 | Panama Railroad Steamship Line. | New York via Haiti.                           |
| Dec. 17.   | Allianca              | Panama Railroad Steamship Line. | New York via Haiti.                    | Dec. 16. | Caribbean             | Panama Railroad Steamship Line. | Puerto Colombia.                              |
| Dec. 17.   | Selandia <sup>1</sup> | East Asiatic Steamship Co       | High seas.                             | Dec. 16. | Corbis                | Anglo-Saxon Petroleum Co.       | Tampico.                                      |
| Dec. 17.   | Quibdo                | A. and T. Meluk.                | Cartagena.                             | Dec. 17. | Selandia <sup>1</sup> | East Asiatic Steamship Co.      | Liverpool.                                    |

\* Collier.

## PORT OF BALBOA.

|       |       |       |              |            |                             |          |
|-------|-------|-------|--------------|------------|-----------------------------|----------|
| ..... | ..... | ..... | Dec. 14..... | Ashville   | United States Navy.         | Corinto. |
| ..... | ..... | ..... | Dec. 14..... | Galveston  | United States Navy.         | Corinto. |
| ..... | ..... | ..... | Dec. 15..... | Lady Sybil | International Petroleum Co. | Talara.  |

\* Other than ships passing through the Canal.

### First Steamer in New French Line Service.

The steamship *Honduras*, the vessel finally selected to inaugurate the new service of the Compagnie Generale Transatlantique between Europe and the west coast of North America, an announcement of which was published in THE PANAMA CANAL RECORD of September 21, passed through the Canal northbound on December 18 with a cargo of canned fish, dried fruit, barley, copper, and other Pacific coast products loaded at Puget Sound ports and San Francisco for discharge at Bordeaux, Havre, Antwerp, and Hamburg. The *Honduras* will be followed by the steamships *Mississippi* and *St. Joseph*. A monthly service will be maintained.

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### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution to shipping of such notices and circulars. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

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### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended December 17:

Steamship *Hawkeye State*, repair port after blower; renew brickwork, No. 6 furnace; manufacture 1 bevel pinion for revolution counter and repair 1 recording pen; barges *No. 102*, dock and undock; stage and clean; scale bottom up to lower fender; paint 2 coats of anticorrosive and 1 coat of antifouling; *No. 121*, dock and undock; stage and clean; scale bottom up to lower fender; paint 2 coats of anticorrosive and 1 coat of antifouling; dredge *No. 86*, dock and undock; stage and clean; scale bottom up to 8-foot draft line; redrive or weld all loose rivets in hull under water line, and stop all leaks; overhaul sea valves; scale, paint, and tighten all loose rivets in ladder; install valve in suction line; scow *No. 139*, redrive or weld all loose rivets in hull below water line; test tanks; calk as required and stop all leaks; renew 80 feet of side fender; patch bottom; straighten combing; manufacture and install end and rake fenders.

#### PREVIOUSLY REPORTED.

Steamships *Lady Sybil*, heavy operation and miscellaneous hull repairs; *Calgarolite*, heavy operation and miscellaneous repairs; motor ship *Chiralite*, heavy operation and miscellaneous repairs; launch *No. 405*, installation of new engine bed and light repairs.

The following vessels were at the Cristobal shops for repairs during the week ended December 19:

Steamship *Colon*, repair double bottom tank; install guard for lifeboat; repair steam pipes; D. B. launch *L-53*, repair bulwarks, rudder head, shoe, lower fender, etc.; install copper patches on hull; overhaul reverse gear; true up pistons; manufacture new ring; overhaul magnet; overhaul air and bilge pump; test and repair tank, etc.; U. S. N. barge *No. 479*, dock and undock; scrape and paint bottom; test tanks; renew rivets where necessary; scrape and red lead tanks, etc.; steamships *Canadian Cruiser*, machine piston head, rod, and rings; *Allianca*, repair drain pipe in hold, repair scupper under bridge; tug *Engineer*, scale boilers; remetal H. P. crank brass; fit brasses to L. P. link block, etc.; steamships *Arawa*, *Caribbean*, and launch *Wilhelm*, minor repairs.

#### PREVIOUSLY REPORTED.

Supply boat *No. 1*, install new cylinder; steamship *Venezuela*, free up anchor windlass; true up L. P. and H. P. slippers; fit liners on H. P. and L. P. crank brasses, etc.



### Trips Through the Canal.

In addition to the steamship services carrying local passengers through the Canal from one terminal to the other which were named in THE PANAMA CANAL RECORD of December 7, the Matson Line, operating the steamers *Buckeye State* and *Hawkeye State*, accepts such passengers at \$6 each for the trip.

With this addition, the lines now offering such service are the Pacific Steam Navigation Company, Grace Line, South American Steamship Company, Pacific Mail Steamship Company, and Matson Line. The two last named charge \$6 for the trip, the others \$10. Together they afford about 5 transits of the Canal each way every week.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending December 17, 1921.

| Name of vessel. | Line or charterer.              | Arrived.     | Departed.    | Cargo—     |        |
|-----------------|---------------------------------|--------------|--------------|------------|--------|
|                 |                                 |              |              | Discharged | Laded. |
|                 |                                 |              |              | Tons.      | Tons.  |
| Coppename       | United Fruit Co.                | December 11. | December 11. | (2)        | 47     |
| Huallaga        | Peruvian Line                   |              | December 12. |            | 192    |
| Balboa          | Caribbean Steamship Line.       |              | December 12. |            | 101    |
| Manavi.         | Pacific Steam Navigation Co     |              | December 12. |            | 20     |
| Jamaica         | Pacific Steam Navigation Co     |              | December 12. |            | 58     |
| Victoria.       | Pacific Steam Navigation Co     |              | December 12. |            | 4      |
| Jason.          | Royal Netherlands W. I. Mail.   | December 12. | December 12. | 676        | 44½    |
| Venezuela       | Royal Netherlands W. I. Mail.   | December 12. | December 14. | 1          | 722    |
| Moerdijk        | Holland-American Line           | December 12. | December 14. | 197        | ½      |
| Architect       | Harrison Line                   | December 12. | December 14. | (2)        | 648    |
| Zacapa          | United Fruit Co.                | December 12. | December 15. | 735        | 219    |
| Balboa          | Johnson Steamship Line.         | December 13. | December 14. | 37         | (1)    |
| Calamares       | United Fruit Co.                | December 13. | December 14. | 371        | 123    |
| Caribbean       | Panama Railroad Steamship Line. | December 13. | December 16. | 750        | 126    |
| Coppename       | United Fruit Co.                | December 14. | December 14. | (2)        | 2      |
| Tivives         | United Fruit Co.                | December 14. | December 15. | 34         | 191    |
| Turrialba       | United Fruit Co.                | December 14. | December 15. | (2)        | 1      |
| Essequibo       | Pacific Steam Navigation Co     | December 14. | December 14. | 3          | 62     |
| Cuba            | Pacific Mail Steamship Co.      |              | December 15. |            | 2,661  |
| Colon           | Panama Railroad Steamship Line. |              | December 15. |            | 2,874  |
| Corbis          | Anglo-American Petroleum Co     | December 14. | December 16. | 7,667      | (3)    |
| Quillota        | Pacific Steam Navigation Co     | December 15. | December 16. | 426        | (3)    |
| Quilpue         | Pacific Steam Navigation Co     | December 15. | December 17. | 89         | 161    |
| Ebro.           | Pacific Steam Navigation Co.    | December 16. | December 17. | 65         | 97     |
| Renaico         | Chilean Line                    | December 16. | December 17. | 86         | (1)    |
| Camden          | United Fruit Co.                | December 16. |              | 8,957      |        |
| Allianca        | Panama Railroad Steamship Line. | December 17. |              | 1,418      |        |
| Australien      | East Asiatic Steamship Co.      | December 17. | December 17. | 28         | (1)    |

<sup>1</sup> Motor ship.

<sup>2</sup> No cargo discharged.

<sup>3</sup> No cargo laded.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending December 17, 1921.

| Name of vessel. | Line or charterer.           | Arrived.     | Departed.    | Cargo—     |        |
|-----------------|------------------------------|--------------|--------------|------------|--------|
|                 |                              |              |              | Discharged | Laded. |
|                 |                              |              |              | Tons.      | Tons.  |
| Venezuela       | Pacific Mail Steamship Co.   | December 11. | December 11. |            | 5      |
| Jamaica         | Pacific Steam Navigation Co. | December 12. | December 12. |            | 8      |
| Huallaga        | Peruvian Steamship Line      | December 12. | December 12. |            | 5      |
| Jason.          | Royal Netherlands W. I. Mail | December 13. | December 16. | 502        |        |
| Cuba            | Pacific Mail Steamship Co.   | December 14. | December 16. |            | 175    |
| Borgland        | Peter Olsen.                 | December 14. | December 14. | 443        | 21     |
| Balboa          | Johnson Line                 | December 14. | December 14. | 149        |        |
| Quillota        | Pacific Steam Navigation Co. | December 15. | December 15. | 5          |        |
| Quilpue         | Pacific Steam Navigation Co. | December 17. | December 17. |            | 5      |

### Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."



### Change in Passenger Train Schedule on Panama Railroad.

Effective January 1, 1922, the passenger train schedule of the Panama Railroad will be changed. The present schedule has a train leaving each terminal, Colon and Panama, at 7.10 a. m., 11 a. m., and 5 p. m., the trains passing near Darien. Under the new schedule a regular passenger train will leave Panama at 7 a. m., arriving at Colon at 8.45 a. m. and 25 minutes later the same equipment will leave for Panama in charge of the same crew. In the afternoon a train will leave Colon at 4 o'clock, arriving at Panama at 5.45 p. m.; it will leave Panama for Colon at 6.10 p. m. and reach Colon at 7.55 p. m.

The service of these two regular passenger trains will be supplemented by accommodation trains crossing the Isthmus in the early afternoon. Trains made up of through freight will leave each terminal station at 12.15 p. m., carrying baggage and passenger cars, and arriving at the opposite terminal at 2.10 p. m. The accommodation trains will make all stops for passengers but will not handle freight at way stations.

The combined schedule will give 3 trains daily for passengers in both directions. Trains will leave Colon at 9.10 a. m., 12.15 p. m., and 4 p. m., and will leave Panama at 7 a. m., 12.15 p. m., and 6.10 p. m.

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### Executive Order.—Conditions of Employment.<sup>1</sup>

By virtue of the authority vested in me, it is hereby ordered:

1. Pursuant to the provisions contained in paragraph 17 of the Executive Order of February 2, 1914,<sup>2</sup> fixing conditions of employment governing employees of The Panama Canal and Panama Railroad Company on the Isthmus of Panama, a charge will be made for rent, fuel, electric current, water, and services in connection with quarters, on and after January 1, 1922.

#### RENT.

2. The rental will be based on the present average depreciated value of the area occupied by the tenant, to be determined by the Governor of The Panama Canal. The rental will be sufficient to amortize the investment in quarters on the basis of a total average life of 36 years, to return five (5) per cent, for amortization and interest on the investment, and in addition cover the amount fixed for expenditure for repairs due to ordinary wear and tear of buildings and for the disposal of garbage and other services necessary from a sanitary point of view. The rental for bachelor quarters and for nonhousekeeping married quarters may be fixed to include all miscellaneous services which are rendered. The rental of buildings hereafter erected shall be fixed so as to conform with rentals theretofore charged for similar buildings.

3. Charges for fuel, electric current, and water will be based upon cost; where meters are not installed, the charge for water will be based upon the average consumption, and the charge for current upon the number of lamps or other devices installed.

4. Miscellaneous work, such as repainting interior of houses, repairing electric fixtures, breakage in screens, furniture and stoves, plumbing, etc., and the cutting of grass and trimming of hedges around quarters, will be done upon request of tenants and charges for such services will be made on the basis of cost. Any repairs made necessary by reason of a tenant's misuse of the premises or any property therein, will be made by The Panama Canal and the cost therefor collected from such tenant.

5. The Governor of The Panama Canal is charged with the duty of issuing such instructions as may be necessary to carry out this order and to fix charges as herein outlined, subject to the general instructions provided.

WARREN G. HARDING.

THE WHITE HOUSE,

December 3, 1921.

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<sup>1</sup> Published as Panama Canal Circular No. 601-127.

<sup>2</sup> Published as Panama Canal Circular No. 601-4.

## Deceased Employees.

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

| Name.                | Check No. | Native of—    | Isthmian residence. | Employed by—           | Date of death.     |
|----------------------|-----------|---------------|---------------------|------------------------|--------------------|
| Charles Chase.....   | 32636     | Barbados..... | Colon.....          | Panama Railroad.....   | November 3, 1921.  |
| Samuel Collins.....  | 31874     | Jamaica.....  | Colon.....          | R. and F. Agent.....   | November 24, 1921. |
| Pedro Nieto.....     | 20717     | Spain.....    | Panama.....         | Mun. Eng. Div.....     | November 23, 1921. |
| Daniel Phillips..... | 25202     | Jamaica.....  | Colon.....          | R. and F. Agent.....   | November 3, 1921.  |
| Zebulum Yates.....   | 44427     | Jamaica.....  | Colon.....          | Panama Railroad.....   | November 8, 1921.  |
| Henry Spencer.....   | 50573     | Barbados..... | Panama.....         | Dredging Division..... | October 30, 1921.  |
| James Maloney.....   | 42195     | Barbados..... | La Boca.....        | Motor car house.....   | December 4, 1921.  |

## Official Circulars.

## Reduced Rate on Grace Line's Vessels.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., December 1, 1921.

To all concerned—The Panama Agencies Company advises that, effective November 29, 1921, a reduction of 25 per cent from the minimum first-class fare on the vessels of the Grace Line in the New York-Cristobal service will be granted employees of The Panama Canal and the Panama Railroad Company and dependent members of their families. The vessels of their line in this service are the *Santa Elisa*, *Santa Teresa*, *Santa Luisa*, and *Santa Ana*.

C. A. McILVAINE,  
Executive Secretary.

## Land for Agricultural Purposes.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., December 2, 1921.

CIRCULAR NO. 713-1:

1. Pursuant to instructions contained in letter of the Secretary of War to the Governor under date of October 18, 1921, certain lands in the Canal Zone are from this date made available for agricultural purposes.

2. The lands so made available are comprised within the following-described areas, but lands within 1 mile of the towns of Corozal, Pedro Miguel, Paraiso, Gatun, Empire, and Culebra, are excepted:

(a) *East side of the Canal*—The area bounded by the Curundú River on the south, Gatun River on the north, Zone line on the east, and the Canal on the west, except the areas included in military reservations, pasture lands, Sunmit contract, Las Cascadas Plantation, Juan Mina Plantation, and such land as is needed by the Police Division at Gamboa, and such areas as have been assigned by the Supply Department for garden plots.

(b) *West side of the Canal*—The area bounded by Venado Beach on the south, Supply Department pastures on the north, Zone line on the west, Supply Department pastures on the east; and the area bounded by pastures on the south, military reservation and Limon Bay on the north, the Canal and pasture area on the east, and Zone line on the west; except that no land will be assigned within  $\frac{1}{2}$  mile of Gatun Dam or within  $\frac{1}{2}$  mile of Caño Saddle; this latter exception not including the islands in Gatun Lake.

3. These lands will be assigned under revocable licenses, subject to the following provisions:  
(a) If at any time it shall become necessary for the United States to occupy or use the whole or any portion of the lands covered by any such revocable license, it shall have the right to do so without further compensation to the licensee

than the reasonable value of the improvements made by him upon said tract, said value to be determined in such manner as the Governor may direct.

(b) No license shall be granted to any person who shall not have first established by affidavit that he will use the same for agricultural purposes and that he will comply with all regulations now or hereafter in effect concerning land in the Canal Zone devoted to agriculture.

(c) The licensee shall be required to enter upon the land and commence the cultivation thereof within 6 months from the date of his license, and thereafter to cultivate the land to the satisfaction of the duly appointed representative of the Canal entrusted by the Governor with the supervision of such matters.

(d) No license shall be assignable except with the approval of the Governor.

(e) All licenses shall reserve to the United States all mineral, oil, and gas rights in the lands covered by them.

(f) Under this authority not exceeding 5 hectares will be granted to any one person, a member of whose immediate family has not received a similar grant, without any charge being made therefor up to and including June 30, 1924. An applicant may be permitted to take under license not to exceed 50 hectares, but in such event he shall be charged at the rate of \$5 per annum for each hectare in excess of 5 so taken. On and after July 1, 1924, all land held under license as herein provided shall be charged for at the rate of \$5 per hectare per annum, and this rate shall not be increased prior to December 31, 1930.

4. From second-hand material soon to be available from buildings razed there will be granted to each licensee without charge until the available supply is exhausted not to exceed 50 sheets of iron and 5,000 feet of lumber, and this material will be transported to the point on the railroad nearest the respective holdings at the expense of the Panama Railroad Company; but no licensee of more than five hectares of land shall be given any material as herein provided until all requisitions from holders of five-hectare assignments have been satisfied.

5. The receipt and acceptance or rejection of applications, the delimiting of land assigned, the necessary inspections, and all other matters concerning the operation of this plan, shall be under the jurisdiction of the Land Agent.

JAY J. MORROW,  
Governor.

## Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6" 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Volume XV. Balboa Heights, C. Z., December 28, 1921. No. 20.

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## Good Wishes of the Season.

THE PANAMA CANAL,  
BALBOA HEIGHTS, C. Z., December 23, 1921.

The Panama Canal extends to all of its patrons and employees the greetings of the holidays.

In the past year there has been a slight decrease in traffic, but the volume has been well sustained in view of the general depression. Sales of supplies to ships, and repair work, have fallen off on account of lessened traffic and policies of retrenchment on the part of ship operators.

The Canal force has been greatly reduced, due to these causes, completion of construction, and revisions in method and organization. Wages have been reduced in step with reductions in the United States and, in the case of silver employees, with lowered cost of living. Beginning with the new year, free quarters for gold roll employees will be eliminated. Flat price contracts are now being entered into for work done by departments of the Canal, eliminating the uncertainties of the former "cost plus" system. These changes are all parts of a policy of placing the operation of the Canal on a business basis, with what appears to be a due regard to conditions of service in the tropics.

The levying of rent and accompanying charges on gold employees has met with opposition on their part. It is the belief of the administration that these charges are proper, but it can have no objection to full discussion of this or any situation affecting employees, or to legitimate appeals to the authorities to which we are responsible. The Governor takes occasion to express appreciation of the fair and open manner in which employees have asserted their case.

The elimination of perquisites is primarily for economy. It is, however, aimed also at establishing direct cash payment for services and eliminating indirect part-payment through privileges. It makes costs tangible and businesslike and places a direct gauge on compensation for services. Throughout, the commercialization of the Canal should place a more direct emphasis on service and tend to secure corresponding payment.

It is in the belief that we may all look forward to better days and bigger work that the administration extends cordial holiday greetings.

JAY J. MORROW,  
*Governor.*

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## Lower Rates on Coconuts and Ivory Nuts to New York.

The Panama Railroad Steamship Line has made reductions in rates from Colon or Cristobal to New York for shipment of two important products of Panama, effective December 15, 1921. The rate on coconuts was reduced from 30 to 25 cents per 100 pounds and that on ivory nuts from 30 to 20 cents per 100 pounds.



**CANAL WORK IN NOVEMBER.**

The following is the report of the Governor to the Secretary of War, of Canal work in the month of November, 1921:

BALBOA HEIGHTS, C. Z., December 20, 1921.

*The Honorable, the Secretary of War,  
Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of November, 1921.

**CANAL TRAFFIC.**

The total number of vessels and craft of all kinds transiting the Canal, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                                | November,<br>1921. | October,<br>1921. | November,<br>1920. |
|------------------------------------------------|--------------------|-------------------|--------------------|
| Commercial vessels.....                        | 222                | 255               | 238                |
| Noncommercial vessels.....                     | 13                 | 20                | 16                 |
| Launches, etc. (under 10 tons).....            | 4                  | 6                 | 4                  |
| Total vessels and craft through the Canal..... | 239                | 281               | 258                |

**COMMERCIAL TRAFFIC.<sup>1</sup>***Tolls.*

Under the present dual method of assessing tolls, the revenue from this source was \$923,048.70. Had the net tonnage as determined by the Panama Canal rules of measurement been used in all cases as a basis for collecting tolls, the above amount would have been increased by \$185,863.60. This additional revenue would have been contributed by nationality of ships, as follows:

|                    | Atlantic<br>to Pacific. | Pacific<br>to Atlantic. | Total.       |
|--------------------|-------------------------|-------------------------|--------------|
| British.....       | \$34,586.05             | \$23,842.75             | \$58,428.80  |
| Chilean.....       | 2,257.10                | 1,263.65                | 3,520.75     |
| Danish.....        | 2,324.65                | 2,275.50                | 4,600.15     |
| Dutch.....         | 1,371.80                | 5,407.00                | 6,778.80     |
| French.....        | 1,155.70                | 460.45                  | 1,616.15     |
| German.....        | 1,120.75                | 1,280.05                | 2,400.80     |
| Greek.....         |                         | 1,243.40                | 1,243.40     |
| Italian.....       | 447.55                  | 1,548.70                | 1,996.25     |
| Japanese.....      | 2,486.23                | 2,729.90                | 5,216.13     |
| Norwegian.....     | 3,449.65                | 3,210.00                | 6,659.65     |
| Peruvian.....      | 3,315.75                | 3,315.75                | 6,631.50     |
| Spanish.....       |                         | 1,051.10                | 1,051.10     |
| Swedish.....       | 1,958.10                | 3,305.45                | 5,263.55     |
| United States..... | 45,857.90               | 32,143.95               | 78,001.85    |
| Total.....         | \$100,331.23            | \$3,077.65              | \$183,408.88 |

The additional tolls paid by American vessels would have been distributed among the following channels of trade:

|                                         | Atlantic<br>to Pacific. | Pacific<br>to Atlantic. | Total.    |
|-----------------------------------------|-------------------------|-------------------------|-----------|
| United States coastwise ports.....      | 25,221.75               | 17,245.50               | 42,467.25 |
| United States and Canal Zone ports..... | 774.70                  | 528.10                  | 1,302.80  |
| United States and possessions.....      | 2,225.10                | 2,042.70                | 4,267.80  |
| United States and foreign ports.....    | 15,039.90               | 12,327.65               | 27,367.55 |
| Between foreign ports.....              | 2,596.45                |                         | 2,596.45  |
| Totals.....                             | 45,857.90               | 32,143.95               | 78,001.85 |

Of the above additional revenue that would have been collected by using the Panama Canal rules exclusively, \$4,624.80 represents the additional tolls that would have been collected on account of deck cargo.

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Ships not paying tolls are classed as "noncommercial."



## COMPARATIVE TRAFFIC STATISTICS.

The following tabulations permit a ready comparison of commercial traffic through the Canal in November, 1921, with that of the preceding months, along the lines indicated at the head of the various tables.

## TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | November,<br>1921. | October,<br>1921. | November,<br>1920. | Average<br>month for<br>past year. |
|-------------------------------------------|--------------------|-------------------|--------------------|------------------------------------|
| United States equivalent net tonnage..... | 753,697            | 866,196           | 765,817            | 775,729                            |
| Panama Canal net tonnage.....             | 942,411            | 1,069,554         | 929,875            | 953,874                            |
| Registered gross tonnage.....             | 1,184,157          | 1,335,812         | 1,184,072          | 1,205,516                          |
| Registered net tonnage.....               | 752,886            | 863,676           | 756,223            | 760,737                            |
| Tolls.....                                | \$923,048.70       | \$1,047,935.62    | \$933,912.11       | \$938,862.50                       |
| Tons of cargo carried.....                | 855,440            | 985,775           | 984,910            | 902,541                            |

## UNITED STATES COASTWISE TRAFFIC.

|                | Atlantic to Pacific. |                       |             |                   | Pacific to Atlantic. |                       |             |                   |
|----------------|----------------------|-----------------------|-------------|-------------------|----------------------|-----------------------|-------------|-------------------|
|                | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. |
| 1921.          |                      |                       |             |                   |                      |                       |             |                   |
| January.....   | 17                   | 88,086                | \$91,390.00 | 76,593            | 16                   | 62,765                | \$64,343.59 | 81,336            |
| February.....  | 15                   | 80,940                | 79,169.10   | 67,302            | 17                   | 66,043                | 66,703.70   | 68,345            |
| March.....     | 16                   | 71,770                | 75,338.65   | 55,111            | 11                   | 61,804                | 64,470.64   | 52,289            |
| April.....     | 19                   | 92,033                | 94,185.00   | 94,484            | 14                   | 68,368                | 65,523.74   | 59,306            |
| May.....       | 19                   | 82,257                | 84,545.85   | 90,617            | 16                   | 75,593                | 72,813.55   | 93,242            |
| June.....      | 17                   | 96,199                | 94,577.11   | 68,809            | 11                   | 53,986                | 53,953.75   | 57,234            |
| July.....      | 19                   | 101,924               | 99,474.75   | 60,997            | 14                   | 70,477                | 72,103.75   | 91,991            |
| August.....    | 19                   | 86,278                | 81,734.17   | 55,387            | 23                   | 110,899               | 118,316.25  | 129,792           |
| September..... | 25                   | 134,239               | 136,340.58  | 72,620            | 15                   | 88,111                | 83,011.64   | 104,642           |
| October.....   | 22                   | 113,712               | 116,752.05  | 86,442            | 19                   | 96,731                | 101,710.00  | 105,951           |
| November.....  | 24                   | 136,349               | 131,558.19  | 91,067            | 17                   | 86,958                | 88,339.80   | 101,460           |

## UNITED STATES SHIPPING BOARD VESSELS.

|                | Atlantic to Pacific. |                       |           |                   | Pacific to Atlantic. |                       |           |                   |
|----------------|----------------------|-----------------------|-----------|-------------------|----------------------|-----------------------|-----------|-------------------|
|                | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.    | Tons of<br>cargo. | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.    | Tons of<br>cargo. |
| 1921.          |                      |                       |           |                   |                      |                       |           |                   |
| January.....   | 14                   | 59,738                | 64,769.85 | 70,058            | 23                   | 96,877                | 93,268.29 | 98,075            |
| February.....  | 8                    | 41,024                | 42,951.75 | 35,018            | 20                   | 96,441                | 94,082.01 | 108,285           |
| March.....     | 18                   | 94,823                | 96,782.80 | 83,978            | 8                    | 34,066                | 31,378.00 | 30,025            |
| April.....     | 13                   | 61,176                | 61,590.00 | 60,231            | 12                   | 56,049                | 53,162.18 | 52,908            |
| May.....       | 9                    | 39,614                | 40,180.00 | 48,489            | 21                   | 97,257                | 92,380.47 | 114,107           |
| June.....      | 17                   | 86,361                | 78,770.14 | 65,945            | 11                   | 49,370                | 48,080.00 | 59,696            |
| July.....      | 12                   | 67,851                | 65,796.25 | 29,918            | 12                   | 60,804                | 61,305.00 | 82,767            |
| August.....    | 15                   | 76,570                | 71,607.58 | 46,542            | 18                   | 79,390                | 77,353.39 | 91,897            |
| September..... | 10                   | 53,816                | 51,785.48 | 38,365            | 16                   | 84,433                | 82,566.25 | 109,610           |
| October.....   | 10                   | 53,300                | 53,475.00 | 34,593            | 14                   | 61,980                | 62,318.75 | 79,129            |
| November.....  | 12                   | 74,635                | 71,525.74 | 44,976            | 5                    | 29,949                | 29,127.50 | 28,865            |

## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

|                                           | November,<br>1921. | October,<br>1921. | November,<br>1920. |
|-------------------------------------------|--------------------|-------------------|--------------------|
| United States equivalent net tonnage..... | 3,395              | 3,397             | 3,218              |
| Panama Canal net tonnage.....             | 4,245              | 4,194             | 3,907              |
| Registered gross tonnage.....             | 5,334              | 5,238             | 4,975              |
| Registered net tonnage.....               | 3,391              | 3,387             | 3,177              |
| Tolls.....                                | \$4,157.88         | \$4,109.55        | \$3,924.00         |
| Tons of cargo (all vessels).....          | 3,853              | 3,866             | 4,138              |
| Tons of cargo (laden vessels only).....   | 4,322              | 4,694             | 4,804              |

## COMMODITY STATISTICS.

A classification of the cargo passing through the Canal during the month of November, 1921, has been compiled from declarations of cargo submitted by the ships' masters, and while incomplete, is indicative of the kind and quantity of the various commodities carried by ships transiting the Canal. From the cargo declarations and manifests submitted, it was possible to classify by commodities 75 per cent of all cargo passing from the Atlantic to the Pacific, and 94½ per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith:

| Commodity.                                      | November,<br>1921. | October,<br>1921. | September,<br>1921. | August,<br>1921. |
|-------------------------------------------------|--------------------|-------------------|---------------------|------------------|
| Atlantic to Pacific.                            |                    |                   |                     |                  |
| Oil:                                            |                    |                   |                     |                  |
| Crude.....                                      | 30,144             | 68,891            | 17,981              | 36,454           |
| Refined.....                                    | 47,944             | 25,840            | 19,781              | 28,685           |
| Other.....                                      | 3,113              | 1,121             | 2,088               | 2,177            |
| Manufactured goods:                             |                    |                   |                     |                  |
| Iron and steel.....                             | 65,071             | 48,074            | 50,488              | 28,373           |
| Machinery, railroad material, and textiles..... | 23,927             | 14,659            | 19,331              | 8,312            |
| Coal and coke.....                              | 52,850             | 21,512            | 16,040              | 24,066           |
| Cotton, raw.....                                | 20,807             | 14,725            | 19,207              | 34,432           |
| Metals.....                                     | 10,052             | 8,880             | 8,467               | 5,286            |
| Ammonia.....                                    | 7,447              | 12,072            | 4,749               | 6,997            |
| Cement.....                                     | 5,233              | 2,681             | 1,834               | 3,511            |
| Paper.....                                      | 2,900              | 2,813             | 1,210               | 1,508            |
| Sulphur.....                                    | 2,500              |                   | 11,551              | 19,350           |
| Tobacco.....                                    | 2,075              | 2,879             | 2,452               | 893              |
| Other and general.....                          | 112,618            | 150,290           | 125,541             | 117,936          |
| Total cargo.....                                | 386,681            | 374,437           | 300,720             | 317,970          |
| Pacific to Atlantic.                            |                    |                   |                     |                  |
| Wheat.....                                      | 110,831            | 128,375           | 75,486              | 80,231           |
| Lumber.....                                     | 50,564             | 56,606            | 26,750              | 35,054           |
| Nitrate.....                                    | 39,323             | 54,256            | 22,758              | 39,349           |
| Barley.....                                     | 37,989             | 67,092            | 107,831             | 77,661           |
| Oils:                                           |                    |                   |                     |                  |
| Crude.....                                      | 26,617             | 670               | 4,820               | 570              |
| Refined.....                                    | 10,169             | 9,713             | 18,278              |                  |
| Vegetable, etc.....                             | 761                | 1,581             | 1,545               | 2,361            |
| Canned goods:                                   |                    |                   |                     |                  |
| Fish.....                                       | 13,767             | 32,761            | 17,232              | 7,972            |
| Fruit.....                                      | 19,808             | 25,547            | 35,427              | 10,921           |
| Vegetables, milk, etc.....                      | 1,470              | 2,523             | 4,302               | 2,875            |
| Metals, various.....                            | 14,515             | 11,078            | 10,516              | 21,425           |
| Ores, various.....                              | 13,218             | 3,824             | 6,433               | 6,524            |
| Fruit, fresh and dried.....                     | 13,060             | 4,162             | 6,664               | 5,192            |
| Sugar.....                                      | 11,210             | 20,261            | 6,657               | 49,406           |
| Beans, peas, lentils, etc.....                  | 9,270              | 20,547            | 6,774               | 5,571            |
| Flour.....                                      | 8,799              | 19,000            | 15,101              | 18,946           |
| Phosphates.....                                 | 7,300              | 14,057            |                     | 6,650            |
| Cold storage, meats, butter, etc.....           | 4,920              | 18,739            | 10,600              | 31,658           |
| Cotton.....                                     | 4,886              | 12,592            | 5,392               | 4,140            |
| Rice.....                                       | 4,678              | 4,054             | 7,205               | 5,033            |
| Wool.....                                       | 4,349              | 9,081             | 5,522               | 10,468           |
| Coffee.....                                     | 3,785              | 4,594             | 6,013               | 6,710            |
| Ivory nuts.....                                 | 3,012              | 2,811             | 3,164               | 1,492            |
| Cacao.....                                      | 2,862              | 3,844             | 4,327               | 1,469            |
| Tea.....                                        | 1,983              | 3,950             | 546                 | 444              |
| Other and general.....                          | 49,413             | 79,620            | 44,831              | 89,181           |
| Total cargo.....                                | 468,759            | 611,338           | 454,174             | 521,303          |

## TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

All cargo-carrying vessels pay tolls on their net tonnage as determined by established rules for measuring their available cargo-carrying space, yet the rate of such tolls per cargo ton varies in different ships as the ratio of cargo tonnage varies to the net tonnage. The table below is indicative of the ratio of cargo tonnage to net tonnage for the month of November, 1921, grouping the ships by nationality.

|                                               | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | General<br>average. |
|-----------------------------------------------|----------------------------|----------------------------|---------------------|
| British.....                                  | \$1.23                     | \$0.90                     | \$1.19              |
| Chilean.....                                  | 3.43                       | 15.11                      | 4.69                |
| Danish.....                                   | .51                        | .45                        | .47                 |
| Dutch.....                                    | 2.55                       | .66                        | .91                 |
| French.....                                   | 20.96                      | .74                        | 2.65                |
| German.....                                   | 1.30                       | .49                        | .84                 |
| Greek.....                                    |                            | .64                        | .64                 |
| Italian.....                                  | 7.39                       | .94                        | 1.31                |
| Japanese.....                                 | .83                        | .75                        | .78                 |
| Norwegian.....                                | .84                        | .58                        | .76                 |
| Peruvian.....                                 | 1.40                       | .86                        | 1.14                |
| Spanish.....                                  |                            | .58                        | .58                 |
| Swedish.....                                  | 1.63                       | .56                        | .68                 |
| United States.....                            | 1.18                       | .86                        | 1.02                |
| Average rate, all ships, November, 1921.....  | 1.19                       | .81                        | .98                 |
| Average rate, all ships, October, 1921.....   | 1.09                       | .78                        | .90                 |
| Average rate, all ships, September, 1921..... | 1.23                       | .77                        | .95                 |

## ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past 12 months, the figures representing the Panama Canal net tonnage:

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.              | East coast of United States. | Europe. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|---------------------|------------------------------|---------|---------|------------|----------------|---------|
| November, 1920..... | 275,829                      | 104,856 | 43,350  | 20,399     | 23,517         | 467,951 |
| December.....       | 332,418                      | 128,739 | 53,070  | 36,097     | 4,608          | 554,932 |
| January, 1921.....  | 284,111                      | 129,939 | 60,564  | 21,373     | 21,732         | 517,719 |
| February.....       | 268,727                      | 75,532  | 55,859  | 18,844     | 16,271         | 435,233 |
| March.....          | 291,937                      | 183,548 | 85,275  | 20,731     | 27,100         | 613,591 |
| April.....          | 261,497                      | 131,840 | 46,289  | 21,846     | 31,034         | 492,506 |
| May.....            | 231,751                      | 107,404 | 48,151  | 20,612     | 6,511          | 414,429 |
| June.....           | 250,806                      | 79,129  | 37,401  | 28,920     | 19,046         | 415,302 |
| July.....           | 221,318                      | 124,108 | 23,167  | 23,488     | 10,970         | 403,051 |
| August.....         | 257,690                      | 175,768 | 15,527  | 21,202     | 17,122         | 487,219 |
| September.....      | 277,984                      | 160,534 | 10,889  | 23,038     | 58,189         | 530,634 |
| October.....        | 262,440                      | 226,431 | 27,828  | 20,516     | 33,960         | 571,175 |
| November.....       | 301,680                      | 192,594 | 14,997  | 18,444     | 11,302         | 539,017 |
| Average month.....  | 271,305                      | 133,249 | 41,212  | 22,916     | 20,617         | 489,299 |

## DESTINATION OF ALL TONNAGE FROM ATLANTIC TO PACIFIC.

| Month.              | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|---------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| November, 1920..... | 142,693                      | 160,404                      | 43,431    | 100,879      | 20,544         | 467,951 |
| December.....       | 91,963                       | 248,176                      | 99,594    | 84,168       | 31,031         | 554,932 |
| January, 1921.....  | 163,295                      | 170,851                      | 56,082    | 94,583       | 32,898         | 517,719 |
| February.....       | 119,271                      | 168,904                      | 66,958    | 62,507       | 17,593         | 435,233 |
| March.....          | 139,889                      | 146,075                      | 118,053   | 153,910      | 55,664         | 613,591 |
| April.....          | 141,584                      | 135,622                      | 131,637   | 64,155       | 19,508         | 492,506 |
| May.....            | 125,091                      | 103,143                      | 82,499    | 82,582       | 21,114         | 414,429 |
| June.....           | 143,217                      | 106,369                      | 83,063    | 46,298       | 36,355         | 415,302 |
| July.....           | 194,358                      | 45,391                       | 63,969    | 58,062       | 41,271         | 403,051 |
| August.....         | 164,577                      | 106,886                      | 94,486    | 70,551       | 50,719         | 487,219 |
| September.....      | 268,758                      | 90,105                       | 80,242    | 53,309       | 38,220         | 530,634 |
| October.....        | 280,483                      | 78,532                       | 100,332   | 69,057       | 42,771         | 571,175 |
| November.....       | 216,092                      | 107,721                      | 95,216    | 78,493       | 41,495         | 539,017 |
| Average month.....  | 159,241                      | 132,472                      | 84,603    | 79,125       | 33,858         | 489,299 |

## ORIGIN OF ALL TONNAGE FROM PACIFIC TO ATLANTIC.

| Month.              | West coast of United States. | West coast of South America. | Australasia. | Far East. | Miscellaneous. | Total.  |
|---------------------|------------------------------|------------------------------|--------------|-----------|----------------|---------|
| November, 1920..... | 152,620                      | 193,348                      | 67,251       | 32,687    | 16,018         | 461,924 |
| December.....       | 145,192                      | 239,389                      | 58,175       | 11,146    | 19,084         | 472,986 |
| January, 1921.....  | 151,034                      | 230,437                      | 115,206      | 26,843    | 53,084         | 576,604 |
| February.....       | 173,815                      | 226,242                      | 34,616       | 22,473    | 24,459         | 481,605 |
| March.....          | 163,294                      | 203,002                      | 62,652       | 28,525    | 41,754         | 499,227 |
| April.....          | 139,495                      | 168,585                      | 86,560       | 29,756    | 38,601         | 462,997 |
| May.....            | 174,128                      | 137,258                      | 81,086       | 12,407    | 45,309         | 450,188 |
| June.....           | 116,521                      | 112,474                      | 75,400       | 18,740    | 23,040         | 346,175 |
| July.....           | 174,412                      | 99,745                       | 70,124       | 41,084    | 22,197         | 407,562 |
| August.....         | 229,620                      | 110,248                      | 68,661       | 20,628    | 48,894         | 478,057 |
| September.....      | 218,453                      | 84,212                       | 30,814       | 14,762    | 46,262         | 394,503 |
| October.....        | 252,645                      | 124,560                      | 41,436       | 37,720    | 42,018         | 498,379 |
| November.....       | 189,942                      | 126,381                      | 6,581        | 23,556    | 56,934         | 403,394 |
| Average month.....  | 169,044                      | 160,944                      | 63,094       | 23,551    | 36,303         | 452,936 |

## DESTINATION OF ALL TONNAGE FROM PACIFIC TO ATLANTIC.

| Month.              | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|---------------------|---------|------------------------------|---------|------------|----------------|---------|
| November, 1920..... | 209,701 | 160,628                      | 49,066  | 23,801     | 18,728         | 461,924 |
| December.....       | 198,618 | 157,070                      | 69,008  | 34,099     | 14,191         | 472,986 |
| January, 1921.....  | 293,836 | 188,133                      | 49,947  | 23,295     | 21,393         | 576,604 |
| February.....       | 175,324 | 163,690                      | 74,363  | 18,056     | 50,174         | 481,605 |

## DESTINATION OF ALL TONNAGE FROM PACIFIC TO ATLANTIC—continued.

| Month.             | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|--------------------|---------|------------------------------|---------|------------|----------------|---------|
| March.....         | 190,683 | 189,793                      | 83,700  | 21,228     | 13,823         | 499,227 |
| April.....         | 189,209 | 197,311                      | 53,334  | 22,043     | 1,100          | 462,997 |
| May.....           | 201,548 | 140,940                      | 73,705  | 21,549     | 12,446         | 450,188 |
| June.....          | 155,147 | 136,292                      | 18,324  | 26,112     | 10,300         | 346,175 |
| July.....          | 205,690 | 134,047                      | 23,123  | 28,770     | 15,932         | 407,562 |
| August.....        | 231,830 | 194,279                      | 27,256  | 22,022     | 2,670          | 478,057 |
| September.....     | 204,820 | 140,555                      | 26,478  | 17,114     | 5,536          | 394,503 |
| October.....       | 259,613 | 170,189                      | 18,222  | 30,955     | 19,400         | 498,379 |
| November.....      | 196,974 | 164,345                      | 20,446  | 16,760     | 4,869          | 403,394 |
| Average month..... | 204,448 | 163,924                      | 47,396  | 22,904     | 14,264         | 452,936 |

In connection with the above tabulations, the following statement shows the percentage of increase or decrease for November of tonnage (Panama Canal net) to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year.

|                                  | Tonnage routed to— |                    | Tonnage routed from— |                    |
|----------------------------------|--------------------|--------------------|----------------------|--------------------|
|                                  | Per cent increase. | Per cent decrease. | Per cent increase.   | Per cent decrease. |
| Europe.....                      |                    | 3.6                | 44.5                 |                    |
| East coast of United States..... | 0.2                |                    | 11.2                 |                    |
| East coast of Mexico.....        |                    | 56.8               |                      | 63.6               |
| Cristobal, C. Z.....             |                    | 26.8               |                      | 19.5               |
| West coast of United States..... | 35.7               |                    | 12.3                 |                    |
| West coast of South America..... |                    | 18.7               |                      | 21.5               |
| Australasia.....                 |                    | 0.8                |                      | 89.2               |
| Far East.....                    | 12.5               |                    |                      | 0.1                |

## TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for November, 1921, has been previously compiled and was published in THE PANAMA CANAL RECORD under date of December 7, 1921. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes for the month of November, 1921, for the preceding month and for the corresponding month of last year:

| Vessels plying between—              | Atlantic to Pacific.      |                |                 | Pacific to Atlantic.      |                |                 |
|--------------------------------------|---------------------------|----------------|-----------------|---------------------------|----------------|-----------------|
|                                      | November, 1921.           | October, 1921. | November, 1920. | November, 1921.           | October, 1921. | November, 1920. |
|                                      | Number of vessels.        |                |                 | Number of vessels.        |                |                 |
| United States coastwise.....         | 24                        | 22             | 19              | 17                        | 19             | 10              |
| United States and Far East.....      | 17                        | 19             | 8               | 4                         | 4              | 7               |
| Europe and United States.....        | 13                        | 27             | 5               | 21                        | 29             | 14              |
| United States and South America..... | 12                        | 10             | 24              | 11                        | 12             | 20              |
| Europe and South America.....        | 11                        | 8              | 13              | 13                        | 12             | 18              |
| Cristobal and South America.....     | 10                        | 11             | 11              | 10                        | 12             | 11              |
| Europe and Australasia.....          | 8                         | 8              | 3               | 1                         | 6              | 6               |
| United States and Australasia.....   | 5                         | 4              | 14              |                           | 1              | 2               |
| Europe and Canada.....               | 5                         | 3              | 1               | 7                         | 5              | 3               |
| Mexico and United States.....        | 2                         | 1              | 2               |                           | 2              | 3               |
| Mexico and South America.....        | 1                         | 1              | 6               | 4                         | 2              | 7               |
| Miscellaneous routings.....          | 15                        | 17             | 17              | 11                        | 20             | 14              |
| Totals.....                          | 123                       | 131            | 123             | 99                        | 124            | 115             |
|                                      | Panama Canal net tonnage. |                |                 | Panama Canal net tonnage. |                |                 |
| United States coastwise.....         | 136,349                   | 113,712        | 69,247          | 86,958                    | 96,731         | 38,708          |
| United States and Far East.....      | 91,115                    | 93,947         | 38,558          | 19,159                    | 19,465         | 30,892          |
| Europe and United States.....        | 57,229                    | 135,184        | 26,401          | 96,647                    | 125,113        | 76,405          |
| United States and South America..... | 40,368                    | 27,034         | 80,685          | 41,217                    | 36,182         | 74,489          |
| Europe and South America.....        | 42,473                    | 28,832         | 45,500          | 51,947                    | 53,704         | 66,925          |
| Cristobal and South America.....     | 13,111                    | 16,733         | 15,646          | 12,149                    | 18,077         | 16,007          |
| Europe and Australasia.....          | 58,006                    | 46,421         | 22,277          | 6,581                     | 36,498         | 52,507          |
| United States and Australasia.....   | 20,487                    | 17,558         | 73,306          |                           | 4,938          | 14,744          |
| Europe and Canada.....               | 28,102                    | 15,994         | 4,008           | 37,402                    | 26,043         | 13,864          |



| Vessels plying between—              | Atlantic to Pacific.      |                |                 | Pacific to Atlantic.      |                |                 |
|--------------------------------------|---------------------------|----------------|-----------------|---------------------------|----------------|-----------------|
|                                      | November, 1921.           | October, 1921. | November, 1920. | November, 1921.           | October, 1921. | November, 1920. |
|                                      | Panama Canal net tonnage. |                |                 | Panama Canal net tonnage. |                |                 |
| Mexico and United States.....        | 9,946                     | 1,121          | 11,449          | 20,446                    | 6,407          | 13,139          |
| Mexico and South America.....        | 5,051                     | 5,311          | 31,901          | 9,719                     | 35,927         | 35,927          |
| Miscellaneous routings.....          | 36,780                    | 69,328         | 48,973          | 30,888                    | 65,502         | 28,317          |
| Totals.....                          | 539,017                   | 571,175        | 467,951         | 403,394                   | 498,379        | 461,924         |
|                                      | Tons of cargo carried.    |                |                 | Tons of cargo carried.    |                |                 |
| United States coastwise.....         | 91,067                    | 86,442         | 51,454          | 101,460                   | 105,951        | 41,269          |
| United States and Far East.....      | 116,028                   | 123,689        | 51,810          | 23,080                    | 27,918         | 37,864          |
| Europe and United States.....        | 17,313                    | 10,891         | 2,500           | 151,491                   | 209,788        | 112,307         |
| United States and South America..... | 14,878                    | 10,398         | 101,479         | 44,225                    | 31,664         | 97,363          |
| Europe and South America.....        | 19,473                    | 13,332         | 36,552          | 68,994                    | 67,808         | 86,434          |
| Cristobal and South America.....     | 2,269                     | 2,309          | 4,529           | 6,927                     | 11,107         | 11,867          |
| Europe and Australasia.....          | 48,400                    | 35,426         | 27,244          | 5,775                     | 33,305         | 38,391          |
| United States and Australasia.....   | 21,659                    | 16,432         | 101,424         | .....                     | 3,300          | 10,473          |
| Europe and Canada.....               | 6,611                     | 11,114         | 368             | 41,171                    | 39,985         | 20,474          |
| Mexico and United States.....        | 20,300                    | .....          | 20,000          | .....                     | 3,233          | .....           |
| Mexico and South America.....        | 9,000                     | 9,500          | 53,200          | .....                     | .....          | .....           |
| Miscellaneous routings.....          | 19,683                    | 54,904         | 40,549          | 25,636                    | 77,279         | 37,359          |
| Totals.....                          | 386,681                   | 374,437        | 491,109         | 468,759                   | 611,338        | 493,801         |

## VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships and other noncargo-carrying vessels, are shown in the following tabulation:

|                    | Atlantic to Pacific. |                           |             | Pacific to Atlantic. |                           |            |
|--------------------|----------------------|---------------------------|-------------|----------------------|---------------------------|------------|
|                    | No. of ships.        | Panama Canal net tonnage. | Tolls.      | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
| British.....       | 6                    | 28,037                    | \$24,489.47 | 1                    | 5,311                     | \$3,823.92 |
| Danish.....        | 1                    | 4,490                     | 3,282.50    | .....                | .....                     | .....      |
| Japanese.....      | 4                    | 18,604                    | 17,236.00   | .....                | .....                     | .....      |
| Norwegian.....     | 1                    | 4,011                     | 4,037.50    | 2                    | 10,094                    | 7,267.68   |
| United States..... | 4                    | 18,267                    | 13,152.24   | 1                    | 5,041                     | 3,629.52   |
| Totals.....        | 16                   | 73,409                    | \$62,197.71 | 4                    | 20,446                    | 14,721.12  |

## LATIN-AMERICAN TRAFFIC.

The following tabulations show the number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality:

## ATLANTIC TO PACIFIC.

| Nationality.        | No. of ships. | United States equivalent. | Panama Canal net. | Registered. |         | Tolls.      | Tons of cargo. |
|---------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                     |               |                           |                   | Gross.      | Net.    |             |                |
| British.....        | 18            | 38,439                    | 48,497            | 64,513      | 39,519  | \$44,541.33 | 17,409         |
| United States.....  | 11            | 21,845                    | 28,008            | 35,562      | 21,940  | 26,173.24   | 20,252         |
| Norwegian.....      | 4             | 12,860                    | 15,084            | 20,533      | 12,913  | 16,075.00   | 22,845         |
| Peruvian.....       | 3             | 5,358                     | 8,267             | 11,897      | 7,452   | 6,604.65    | 4,702          |
| German.....         | 2             | 3,649                     | 4,735             | 6,238       | 3,766   | 4,561.25    | 3,552          |
| Chilean.....        | 2             | 2,738                     | 4,733             | 5,282       | 3,233   | 3,422.50    | 997            |
| Dutch.....          | 1             | 4,085                     | 4,393             | 4,368       | 2,726   | 5,106.25    | 1,334          |
| Danish.....         | 1             | 4,082                     | 4,490             | 4,076       | 2,506   | 3,232.80    | .....          |
| Japanese.....       | 1             | 3,590                     | 4,101             | 5,760       | 3,548   | 4,487.50    | 3,574          |
| French.....         | 1             | 3,566                     | 4,081             | 5,681       | 3,600   | 4,457.60    | 237            |
| Italian.....        | 1             | 3,097                     | 3,599             | 5,376       | 3,082   | 3,871.25    | 524            |
| November, 1921..... | 45            | 103,309                   | 129,988           | 169,286     | 104,285 | 122,533.27  | 75,426         |
| October, 1921.....  | 41            | 88,017                    | 114,095           | 148,597     | 91,389  | 106,777.62  | 77,406         |
| November, 1920..... | 65            | .....                     | 199,867           | 257,572     | 162,047 | .....       | 226,824        |

## PACIFIC TO ATLANTIC.

| Nationality.        | No.<br>of<br>ships. | Tonnage.                        |                         |             |         | Tolls.      | Tons<br>of cargo. |
|---------------------|---------------------|---------------------------------|-------------------------|-------------|---------|-------------|-------------------|
|                     |                     | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered. |         |             |                   |
|                     |                     |                                 |                         | Gross.      | Net.    |             |                   |
| British.....        | 20                  | 41,927                          | 53,578                  | 70,398      | 42,717  | \$50,384.22 | 51,198            |
| United States.....  | 11                  | 28,541                          | 36,132                  | 45,564      | 28,182  | 34,052.02   | 33,642            |
| Norwegian.....      | 3                   | 9,704                           | 11,551                  | 18,471      | 9,750   | 8,366.43    | 425               |
| Italian.....        | 2                   | 6,586                           | 8,083                   | 10,548      | 6,429   | 8,232.50    | 8,683             |
| Dutch.....          | 2                   | 3,667                           | 5,755                   | 5,702       | 3,710   | 4,583.75    | 7,150             |
| Peruvian.....       | 2                   | 3,021                           | 5,910                   | 9,361       | 5,100   | 3,776.25    | 4,381             |
| French.....         | 1                   | 3,631                           | 4,166                   | 5,818       | 3,712   | 4,538.75    | 6,100             |
| Danish.....         | 1                   | 2,490                           | 4,490                   | 4,076       | 2,506   | 3,112.50    | 6,950             |
| German.....         | 1                   | 1,783                           | 2,924                   | 2,990       | 1,757   | 2,228.75    | 4,500             |
| Chilean.....        | 1                   | 1,463                           | 2,577                   | 2,553       | 1,600   | 1,828.75    | 121               |
| November, 1921..... | 44                  | 102,813                         | 135,166                 | 175,481     | 105,463 | 121,103.92  | 123,150           |
| October, 1921.....  | 47                  | 114,406                         | 145,941                 | 189,888     | 117,021 | 131,832.89  | 125,384           |
| November, 1920..... | 67                  |                                 | 230,526                 | 305,163     | 191,159 |             | 207,888           |

CLASSIFICATION OF COMMERCIAL TRAFFIC.<sup>1</sup>

A statement of this month's commercial traffic, classified by nationality of vessels, is shown in the following tabulation:

|                              |     |         |         |           |         |              |         |
|------------------------------|-----|---------|---------|-----------|---------|--------------|---------|
| From Atlantic to Pacific.    |     |         |         |           |         |              |         |
| British.....                 | 40  | 137,664 | 173,783 | 219,804   | 137,861 | \$173,092.17 | 115,767 |
| Chilean.....                 | 2   | 2,738   | 4,733   | 5,282     | 3,233   | 3,422.50     | 997     |
| Danish.....                  | 2   | 6,549   | 8,997   | 8,164     | 5,012   | 6,316.55     | 5,943   |
| Dutch.....                   | 2   | 8,948   | 10,459  | 12,023    | 7,525   | 11,185.00    | 4,382   |
| French.....                  | 3   | 10,704  | 12,015  | 15,931    | 10,129  | 13,238.70    | 634     |
| German.....                  | 2   | 3,649   | 4,735   | 6,238     | 3,766   | 4,561.25     | 3,552   |
| Italian.....                 | 1   | 3,097   | 3,599   | 5,376     | 3,082   | 3,871.25     | 524     |
| Japanese.....                | 11  | 45,739  | 51,445  | 66,600    | 44,725  | 52,413.05    | 42,544  |
| Norwegian.....               | 7   | 25,279  | 29,207  | 37,295    | 24,714  | 31,598.75    | 32,856  |
| Panamanian.....              | 1   | 104     | 120     | 193       | 116     | 86.40        |         |
| Peruvian.....                | 3   | 5,358   | 8,267   | 11,897    | 7,452   | 6,604.65     | 4,702   |
| Swedish.....                 | 1   | 2,286   | 4,013   | 4,764     | 2,852   | 2,857.50     | 1,753   |
| United States.....           | 48  | 179,152 | 227,644 | 279,174   | 179,141 | 218,911.30   | 173,027 |
| Totals.....                  | 123 | 431,267 | 539,017 | 671,741   | 429,608 | 528,209.07   | 386,681 |
| From Pacific to Atlantic.    |     |         |         |           |         |              |         |
| British.....                 | 32  | 92,034  | 116,010 | 148,409   | 92,179  | 113,017.97   | 120,858 |
| Chilean.....                 | 1   | 1,463   | 2,577   | 2,553     | 1,600   | 1,828.75     | 121     |
| Danish.....                  | 1   | 2,490   | 4,490   | 4,076     | 2,506   | 3,112.50     | 6,950   |
| Dutch.....                   | 5   | 15,508  | 20,610  | 24,675    | 15,612  | 19,385.00    | 29,141  |
| French.....                  | 1   | 3,631   | 4,166   | 5,818     | 3,712   | 4,538.75     | 6,100   |
| German.....                  | 1   | 1,783   | 2,924   | 2,990     | 1,757   | 2,228.75     | 4,500   |
| Greek.....                   | 2   | 6,212   | 7,429   | 8,683     | 5,312   | 7,671.40     | 11,956  |
| Italian.....                 | 2   | 6,586   | 8,083   | 10,548    | 6,429   | 8,232.50     | 8,683   |
| Japanese.....                | 7   | 31,057  | 34,188  | 46,197    | 30,495  | 38,295.70    | 50,847  |
| Norwegian.....               | 5   | 15,665  | 19,892  | 27,933    | 15,638  | 15,817.68    | 14,762  |
| Peruvian.....                | 2   | 3,021   | 5,910   | 9,361     | 5,100   | 3,776.25     | 4,381   |
| Spanish.....                 | 2   | 5,906   | 7,028   | 9,214     | 5,473   | 7,382.50     | 12,731  |
| Swedish.....                 | 2   | 6,659   | 9,630   | 9,444     | 7,159   | 8,323.75     | 14,737  |
| United States.....           | 36  | 130,415 | 160,457 | 202,515   | 130,306 | 161,228.13   | 182,992 |
| Totals.....                  | 99  | 322,430 | 403,394 | 512,416   | 323,278 | 394,839.63   | 468,759 |
| Combined traffic, both ways. |     |         |         |           |         |              |         |
| British.....                 | 72  | 229,698 | 289,793 | 368,213   | 230,040 | 286,110.14   | 236,625 |
| Chilean.....                 | 3   | 4,201   | 7,310   | 7,835     | 4,833   | 5,251.25     | 1,118   |
| Danish.....                  | 3   | 9,039   | 13,487  | 12,240    | 7,518   | 9,429.05     | 12,903  |
| Dutch.....                   | 7   | 24,456  | 31,069  | 36,698    | 23,137  | 30,570.00    | 33,523  |
| French.....                  | 4   | 14,335  | 16,181  | 21,749    | 13,841  | 17,827.45    | 6,734   |
| German.....                  | 3   | 5,432   | 7,659   | 9,228     | 5,523   | 6,790.00     | 8,052   |
| Greek.....                   | 2   | 6,212   | 7,429   | 8,683     | 5,312   | 7,671.40     | 11,956  |
| Italian.....                 | 3   | 9,683   | 11,682  | 15,924    | 9,511   | 12,103.75    | 9,207   |
| Japanese.....                | 18  | 76,796  | 85,633  | 112,797   | 75,220  | 90,708.75    | 93,391  |
| Norwegian.....               | 12  | 40,944  | 49,099  | 65,228    | 40,352  | 47,416.43    | 47,618  |
| Panamanian.....              | 1   | 104     | 120     | 193       | 116     | 86.40        |         |
| Peruvian.....                | 5   | 8,379   | 14,177  | 21,258    | 12,552  | 10,380.90    | 9,083   |
| Spanish.....                 | 2   | 5,906   | 7,028   | 9,214     | 5,473   | 7,382.50     | 12,731  |
| Swedish.....                 | 3   | 8,945   | 13,643  | 13,208    | 10,011  | 11,181.25    | 16,490  |
| United States.....           | 84  | 309,567 | 388,101 | 481,689   | 309,447 | 380,139.43   | 356,019 |
| Totals.....                  | 222 | 753,697 | 942,411 | 1,184,157 | 752,886 | 923,048.70   | 855,440 |

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls.

A further classification of the commercial traffic is shown below:

|                                    | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|------------------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                                    | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels, laden..... | 104                  | 465,005                   | \$459,621.40 | 94                   | 382,875                   | \$380,065.95 |
| Ballast (excess fuel).....         | 6                    | 26,907                    | 28,450.00    |                      |                           |              |
| Ballast.....                       | 10                   | 46,502                    | 33,698.01    | 4                    | 20,446                    | 14,721.12    |
| Yacht.....                         | 1                    | 483                       | 347.76       | 1                    | 73                        | 52.56        |
| Tug.....                           | 1                    | 120                       | 86.40        |                      |                           |              |
| Cruiser.....                       | 1                    | ( <sup>1</sup> )          | 6,005.50     |                      |                           |              |
| Total commercial.....              | 123                  | 539,017                   | 528,209.07   | 99                   | 403,394                   | 394,839.63   |
| Motor ship.....                    | 1                    | 4,012                     | 2,857.50     | 3                    | 13,011                    | 11,192.50    |
| Motor schooner.....                | 1                    | 72                        | 78.75        | 1                    | 72                        | 78.75        |
| Bark.....                          | 1                    | 2,357                     | 2,828.40     |                      |                           |              |
| Schooner.....                      | 1                    | 730                       | 878.40       |                      |                           |              |

<sup>1</sup> Displacement tonnage of 12,011 tons.

#### CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of, and amount of cargo carried by vessels transiting the Canal free of tolls. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated. This statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal, these not being included in the commercial traffic:

|                                                   | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |          |
|---------------------------------------------------|----------------------|---------------------------|------------|----------------------|---------------------------|----------|
|                                                   | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.   |
| United States naval vessels:                      |                      |                           |            |                      |                           |          |
| Navy cargo ship.....                              | 1                    | <sup>1</sup> 4,861        | \$5,833.20 |                      |                           |          |
| Cruiser.....                                      | 1                    | <sup>1</sup> 3,700        | 1,850.00   |                      |                           |          |
| Gunboat.....                                      | 1                    | <sup>1</sup> 1,500        | 750.00     | 1                    | <sup>1</sup> 1,500        | \$750.00 |
| Coast Guard cutter.....                           |                      |                           |            | 1                    | <sup>1</sup> 1,600        | 800.00   |
| Tug.....                                          |                      |                           |            | 1                    | <sup>1</sup> 1,000        | 500.00   |
| Subchaser.....                                    | 1                    | <sup>1</sup> 77           | 38.50      |                      |                           |          |
| United States Army vessels:                       |                      |                           |            |                      |                           |          |
| Transport.....                                    |                      |                           |            | 1                    | <sup>1</sup> 4,351        | 3,263.25 |
| Mine planter.....                                 | 1                    | 864                       | 622.08     |                      |                           |          |
| Launch.....                                       | 1                    | 10                        | 5.00       |                      |                           |          |
| Commercial vessels with cargo for U. S. Navy..... | 3                    | 13,793                    | 12,511.20  |                      |                           |          |
| Launches.....                                     | 4                    | 13                        | 12.95      |                      |                           |          |

<sup>1</sup> Indicates registered net tonnage.

<sup>1</sup> Indicates displacement tonnage.

Cargo through the Canal free of tolls:

Atlantic to Pacific..... tons... 30,013

#### STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of November, 1921, are shown in the following tabulations:

|                                                                    | Cristobal. | Balboa. | Total.    |
|--------------------------------------------------------------------|------------|---------|-----------|
| Local cargo arriving..... tons..                                   | 20,280     | 3,062   | 23,342    |
| Local cargo shipped..... tons..                                    | 3,346      | 262     | 3,608     |
| Transit cargo arriving..... tons..                                 | 905,284    | 889,684 | 1,794,968 |
| Transit cargo clearing..... tons..                                 | 901,109    | 900,299 | 1,801,408 |
| Cargo received for transshipment..... tons..                       | 18,378     | 224     | 18,602    |
| Cargo transhipped..... tons..                                      | 19,539     | 291     | 19,830    |
| Cargo handled by Receiving and Forwarding Agency, Panama Railroad: |            |         |           |
| Received..... tons..                                               | 26,845     | 5,184   | 32,029    |
| Dispatched..... tons..                                             | 25,390     | 356     | 25,746    |
| Rehandled..... tons..                                              | 1,018      | 641     | 1,659     |
| Stevedored..... tons..                                             | 22,311     | 3,991   | 26,302    |

|                                                                     | Cristobal. | Balboa. | Total.  |
|---------------------------------------------------------------------|------------|---------|---------|
| <b>Vessels supplied with bunker coal:</b>                           |            |         |         |
| Commercial, other than Panama Railroad.....                         | 52         | 5       | 57      |
| Panama Railroad vessels.....                                        | 5          | 1       | 6       |
| United States Army vessels.....                                     |            | 2       | 2       |
| Total vessels supplied with bunker coal.....                        | 57         | 8       | 65      |
| <b>Coal supplied to above vessels:</b>                              |            |         |         |
| Commercial, other than Panama Railroad..... tons..                  | 13,203     | 1,095   | 14,298  |
| Panama Railroad vessels..... tons..                                 | 937        | 721     | 1,658   |
| United States Army vessels..... tons..                              |            | 15      | 15      |
| Total coal supplied to vessels..... tons..                          | 14,140     | 1,831   | 15,971  |
| <b>Coal issues, miscellaneous:</b>                                  |            |         |         |
| Panama Canal departments..... tons..                                | 659        | 131     | 790     |
| Panama Railroad, excepting vessels..... tons..                      | 478        |         | 478     |
| United States Army, excepting vessels..... tons..                   | 305        |         | 305     |
| Individuals and companies..... tons..                               | 296        |         | 296     |
| <b>Total issues from Panama Canal deposits:</b>                     |            |         |         |
| November, 1921..... tons..                                          | 15,878     | 1,962   | 17,840  |
| October, 1921..... tons..                                           | 17,468     | 771     | 18,239  |
| November, 1920..... tons..                                          | 35,020     | 5,055   | 40,075  |
| Coal on hand, December 1, 1921..... tons..                          | 152,187    | 32,626  | 184,813 |
| Coal on hand, November 1, 1921..... tons..                          | 136,790    | 34,588  | 171,378 |
| Coal received during November, 1921..... tons..                     | 31,275     |         | 31,275  |
| <i>United States Navy coal account.</i>                             |            |         |         |
| Issued to United States Navy, including vessels..... tons..         | 28         | 591     | 619     |
| Coal on hand, December 1, 1921..... tons..                          | 71,127     | 7,482   | 78,609  |
| Coal on hand, November 1, 1921..... tons..                          | 71,155     | 8,073   | 79,228  |
| <b>Fuel oil issues:</b>                                             |            |         |         |
| United States Government vessels..... bbls..                        | 350        | 1,071   | 1,421   |
| Panama Canal departments..... bbls..                                | 4,040      | 13,344  | 17,384  |
| Panama Railroad..... bbls..                                         | 734        |         | 734     |
| Army and Navy..... bbls..                                           | 102        |         | 102     |
| Individuals and companies..... bbls..                               | 25         |         | 25      |
| Total issues and sales..... bbls..                                  | 5,251      | 14,415  | 19,666  |
| Fuel oil on hand, December 1, 1921..... bbls..                      | 59,905     | 33,363  | 93,268  |
| Fuel oil on hand, November 1, 1921..... bbls..                      | 65,156     | 47,778  | 112,934 |
| Diesel oil issues during November, 1921..... bbls..                 | 17         | 12      | 29      |
| Diesel oil on hand, December 1, 1921..... bbls..                    | 50,971     | 954     | 51,925  |
| Diesel oil on hand, November 1, 1921..... bbls..                    | 50,988     | 966     | 51,954  |
| Oil pumped for individuals and companies..... bbls..                | 270,758    | 59,126  | 329,884 |
| Miscellaneous transfers..... bbls..                                 | 3,631      | 14,408  | 18,039  |
| Total oil handled..... bbls..                                       | 279,657    | 87,961  | 367,618 |
| <b>Admeasurement certificates:</b>                                  |            |         |         |
| United States equivalent issued or made.....                        | 23         | 1       | 24      |
| Measured for Panama Canal net tonnage.....                          | 12         | 2       | 14      |
| United States equivalent or Panama Canal net tonnage corrected..... | 31         | 12      | 43      |
| <b>Services of harbor equipment:</b>                                |            |         |         |
| Tugs, total operating hours.....                                    | 388        | 171     | 559     |
| Launches, total operating hours.....                                | 1,222      | 1,079   | 2,301   |
| <b>Vessels repaired at Panama Canal shops:</b>                      |            |         |         |
| Commercial.....                                                     | 28         | 15      | 43      |
| United States Government.....                                       | 2          | 5       | 7       |
| Canal equipment.....                                                | 8          | 26      | 34      |
| <b>Vessels dry-docked:</b>                                          |            |         |         |
| Commercial.....                                                     | 5          | 2       | 7       |
| Government.....                                                     | 1          |         | 1       |
| Canal equipment.....                                                | 5          | 7       | 12      |
| Clearances issued.....                                              | 142        | 134     | 276     |
| Bills of health issued.....                                         | 135        | 135     | 270     |

## ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal:



| Ships entering.                                                    | Port of Cristobal. |                   |                 | Port of Balboa. |                   |                 |
|--------------------------------------------------------------------|--------------------|-------------------|-----------------|-----------------|-------------------|-----------------|
|                                                                    | No. of ships.      | Tonnage.          |                 | No. of ships.   | Tonnage.          |                 |
|                                                                    |                    | Registered gross. | Registered net. |                 | Registered gross. | Registered net. |
| All vessels, including those transiting the Canal.....             | 279                | 1,490,833         | 948,490         | 238             | 1,237,853         | 793,433         |
| Vessels entering port but not transiting the Canal.....            | 57                 | 286,382           | 175,130         | 8               | 22,203            | 14,094          |
| Vessels transiting Canal and stopping for passengers or cargo..... | 41                 | 155,815           | 93,158          | 37              | 142,761           | 85,338          |
| Ships clearing.                                                    |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting the Canal.....             | 279                | 1,486,160         | 946,366         | 239             | 1,255,874         | 804,791         |
| Vessels entering port but not transiting the Canal.....            | 58                 | 280,405           | 172,354         | 6               | 21,432            | 13,683          |
| Vessels transiting Canal and stopping for passengers or cargo..... | 41                 | 160,481           | 95,932          | 38              | 149,528           | 89,669          |

## COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of November, 1921:

|                                  | Ice.     | Groceries. | Cold storage. | Laundry. | Miscellaneous. | Total.     |
|----------------------------------|----------|------------|---------------|----------|----------------|------------|
| Sales at Cristobal to—           |          |            |               |          |                |            |
| U. S. Government vessels..       | \$140.82 | \$586.26   | \$428.37      |          | \$32.42        | \$1,187.87 |
| Panama Railroad vessels....      | 115.20   | 1,334.96   | 6,763.11      |          | 753.40         | 8,966.67   |
| Other commercial vessels..       | 1,193.62 | 3,375.09   | 14,069.27     |          | 743.16         | 19,381.14  |
| Total sales, November, 1921..... | 1,449.64 | 5,296.31   | 21,260.75     |          | 1,528.98       | 29,535.68  |
| Total sales, October, 1921.....  | 1,419.23 | 5,105.86   | 23,473.28     | \$120.82 | 1,518.08       | 31,637.37  |
| Total sales, November, 1920..... | 2,898.64 | 11,455.28  | 45,177.87     | 6,319.72 | 4,326.51       | 70,178.02  |
| Sales at Balboa to—              |          |            |               |          |                |            |
| U. S. Government vessels..       | 37.10    | 156.87     | 903.34        |          | 47.00          | 1,144.31   |
| Commercial vessels.....          | 328.12   | 441.47     | 5,111.95      | 2,882.26 | 151.64         | 8,915.44   |
| Total sales, November, 1921..... | 365.22   | 598.34     | 6,015.29      | 2,882.26 | 198.64         | 10,059.75  |
| Total sales, October, 1921.....  | 1,068.58 | 3,265.59   | 11,028.71     | 2,919.81 | 301.09         | 18,583.78  |
| Totalsales, November, 1920.....  | 579.00   | 6,992.30   | 21,247.09     | 399.75   | 1,945.88       | 31,164.02  |

## MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of November, 1921:

|                                      | At Cristobal. |                         |        | At Balboa.   |                         |        |
|--------------------------------------|---------------|-------------------------|--------|--------------|-------------------------|--------|
|                                      | First class.  | Other than first class. | Total. | First class. | Other than first class. | Total. |
| Disembarking:                        |               |                         |        |              |                         |        |
| From Atlantic ports.....             | 1,095         | 692                     | 1,787  | 1            | 3                       | 4      |
| From Pacific ports.....              | 117           | 52                      | 169    | 103          | 119                     | 222    |
| Total disembarking.....              | 1,212         | 744                     | 1,956  | 104          | 122                     | 226    |
| Embarking:                           |               |                         |        |              |                         |        |
| For Atlantic ports.....              | 845           | 766                     | 1,611  |              |                         |        |
| For Pacific ports.....               | 266           | 57                      | 323    | 151          | 82                      | 233    |
| Total embarking.....                 | 1,111         | 823                     | 1,934  | 151          | 82                      | 233    |
| Remaining on board vessels:          |               |                         |        |              |                         |        |
| From Atlantic to Pacific ports.....  | 488           | 1,345                   | 1,833  | 719          | 1,407                   | 2,126  |
| From Pacific to Atlantic ports.....  | 238           | 223                     | 461    | 362          | 305                     | 667    |
| From Atlantic to Atlantic ports..... | 299           | 192                     | 491    |              |                         |        |
| From Pacific to Pacific ports.....   |               |                         |        | 24           | 215                     | 239    |
| Total remaining on board.....        | 1,025         | 1,760                   | 2,785  | 1,105        | 1,927                   | 3,032  |
| Total passengers arriving.....       | 2,237         | 2,504                   | 4,741  | 1,209        | 2,049                   | 3,258  |
| Total passengers departing.....      | 2,136         | 2,583                   | 4,719  | 1,256        | 2,009                   | 3,265  |

## THE PANAMA CANAL RECORD

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks, and the consumption of water for lockages, for the month of November, 1921, as compared with that of the preceding month and of the corresponding month of last year.

## NUMBER OF LOCKAGES.

|                                      | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|--------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                      | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun .....                          | 97          | 120    | 217    | 5              | 4      | 9      | 226          |
| Pedro Miguel .....                   | 97          | 123    | 220    | 20             | 16     | 36     | 256          |
| Miraflores .....                     | 97          | 122    | 219    | 19             | 17     | 36     | 255          |
| Total lockages, November, 1921 ..... | 291         | 365    | 656    | 44             | 37     | 81     | 737          |
| Total lockages, October, 1921 .....  | 359         | 385    | 744    | 42             | 52     | 94     | 839          |
| Total lockages, November, 1920 ..... | 337         | 359    | 696    |                |        | 82     | 778          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                     | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|-------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                     | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun .....                         | 101         | 129    | 230    | 13             | 15     | 28     | 258          |
| Pedro Miguel .....                  | 97          | 127    | 224    | 40             | 36     | 76     | 300          |
| Miraflores .....                    | 97          | 127    | 224    | 39             | 35     | 74     | 298          |
| Total vessels, November, 1921 ..... | 295         | 383    | 678    | 92             | 86     | 178    | 856          |
| Total vessels, October, 1921 .....  | 377         | 400    | 777    | 113            | 103    | 216    | 993          |
| Total vessels, November, 1920 ..... | 353         | 374    | 727    |                |        | 146    | 873          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                                   | Gatun. | Pedro Miguel. | Miraflores. |
|-----------------------------------|--------|---------------|-------------|
| Army and Navy vessels .....       | 11     | 56            | 54          |
| Canal equipment .....             | 17     | 20            | 20          |
| Total noncommercial vessels ..... | 28     | 76            | 74          |

The total consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                         | Gatun.        | Pedro Miguel. | Miraflores. |
|-----------------------------------------|---------------|---------------|-------------|
|                                         | Cubic feet.   | Cubic feet.   | Cubic feet. |
| Lockages .....                          | 849,420,000   | 879,560,000   | 780,000,000 |
| Leakage .....                           | 20,000,000    | 15,000,000    | 67,000,000  |
| Maintenance .....                       |               |               | 3,440,000   |
| Total consumption, November, 1921 ..... | 869,420,000   | 894,560,000   | 850,440,000 |
| Total consumption, October, 1921 .....  | 1,042,730,000 | 989,610,000   | 967,480,000 |
| Total consumption, November, 1920 ..... | 1,102,500,000 | 963,990,000   | 893,190,000 |

## METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographical conditions over the Canal Zone and vicinity during the month of November, 1921, are shown in comparative form:

| Rainfall.                                         | November,<br>1921. | November,<br>1920. | November<br>maximum. | Years of record. |                |
|---------------------------------------------------|--------------------|--------------------|----------------------|------------------|----------------|
|                                                   | Inches.            | Inches.            | Inches.              | Minimum.         | Mean.          |
| Total for month:                                  |                    |                    |                      |                  |                |
| Pacific Section .....                             | 7.59               | 15.58              | 19.62                | 5.64             | 10.46          |
| Central Section .....                             | 12.08              | 10.59              | 30.40                | 7.47             | 13.91          |
| Atlantic Section .....                            | 23.25              | 15.02              | 38.48                | 6.70             | 21.84          |
| Maximum recorded on any one day .....             | 9.35               | 6.11               | 10.86                |                  |                |
| Gatun Lake watershed .....                        | 15.00              | 11.16              | 35.74                | 9.60             | 14.62          |
| Chagres River watershed above Alhajuela .....     | 16.95              | 12.39              | 40.48                | 9.15             | 18.04          |
| Maximum recorded for month at any one point ..... | 33.29              | 21.27              | 45.03                |                  |                |
| Minimum recorded for month at any one point ..... | 3.45               | 5.47               |                      | 2.87             |                |
| <i>Hydrography.</i>                               |                    |                    |                      |                  |                |
| Discharge of Chagres River at Alhajuela .....     | C. f. s. 4,176     | C. f. s. 3,751     | C. f. s. 11,300      | C. f. s. 2,267   | C. f. s. 4,581 |
| Maximum momentary discharge for month .....       | 24,950             | 23,600             | 170,000              |                  |                |
| Gatun Lake watershed total yield .....            | 12,061             | 11,096             | 24,488               | 8,673            | 13,418         |
| Gatun Lake watershed net yield .....              | 11,660             | 10,602             | 23,950               | 7,995            | 12,932         |
| Draft on Gatun Lake for lockages and power .....  | 2,125              | 2,348              | 2,348                | 537              | 1,686          |

<sup>1</sup> This represents the maximum 24-hour rainfall recorded on the Isthmus since the American occupation. Recorded at Porto Bello on December 28-29, 1909.

<sup>2</sup> This figure represents the maximum momentary discharge on record. Occurred on December 26, 1909.

## SEISMOLOGY.

Four slight seismic tremors were recorded by the Balboa Heights seismographs during the month. The tremors recorded on the 2d and 11th were so slight that no distance of epicenter could be determined. The epicenter of the tremor recorded on the 13th was about 550 miles distant and probably to the northwest, while the epicenter of the tremor recorded on the 27th was about 70 miles distant and probably came from the southwest.

## ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., is shown in comparative form in the following tabulation:

|                                                                           | November, 1921. | October, 1921. | November, 1920. |
|---------------------------------------------------------------------------|-----------------|----------------|-----------------|
| Gross output, KWH:                                                        |                 |                |                 |
| Gatun hydroelectric station .....                                         | 4,853,900       | 5,304,100      | 5,700,600       |
| Miraflores steam plant .....                                              | 400             | 1,190          | 122,020         |
| Combined gross output .....                                               | 4,854,300       | 5,305,290      | 5,822,620       |
| Water consumption .....                                                   | 3,779,696,146   | 4,062,727,820  | 4,124,870,000   |
| Oil consumption .....                                                     | 1,827           | 1,953          | 2,733           |
| Power distributed to consumers .....                                      | 4,137,872       | 4,448,013      | 4,902,701       |
| Loss of power in plant auxiliaries, transmission and transformation ..... | 716,428         | 857,277        | 934,199         |
| Per cent loss of power to gross output .....                              | 17.3            | 16.15          | 16.1            |

Miscellaneous electrical repairs and installations of electrical equipment were made on 15 vessels at Cristobal and 23 vessels at Balboa during the month. There were 328 work orders issued for work to be performed by the Electrical Division during the month, as compared with 365 for October. The following work was under progress during the month, with completion on November 30, as shown:

|                                                                                                                                                           | Per cent<br>completed. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Installation of switching and other electrical equipment for fifth generating unit at hydroelectric station .....                                         | 75                     |
| Installation of one 3-phase 44,000-6,600-volt, 8,400 KVA transformer, and three 300-ampere, 15,000-volt tie-line equipments at the Gatun substation ..... | 95                     |
| Installation of 2 complete feeder equipments at Balboa substation .....                                                                                   | 100                    |

## SHOP, FOUNDRY, AND DRY DOCK WORK.

The output of the Mechanical Division in patterns and castings for November 1921, as compared with the preceding month, was as follows:

|             | November, 1921. |           |         | October, 1921. |           |         |
|-------------|-----------------|-----------|---------|----------------|-----------|---------|
|             | Patterns.       | Castings. | Pounds. | Patterns.      | Castings. | Pounds. |
| Iron .....  | 1               | 304       | 17,456  | 4              | 227       | 12,943  |
| Steel ..... |                 | 73        | 11,896  |                | 95        | 8,258   |
| Brass ..... | 3               | 286       | 5,902   | 10             | 126       | 6,423   |

During the month miscellaneous repairs were made on 46 vessels at Balboa and 38 vessels at the Cristobal shops. Of the above vessels, 9 were placed in dry dock at Balboa, and 11 at Cristobal.

Repairs to the steamship *Panama*, which were begun last July, were completed during the month, and dock trials were held on November 14, and successful sea trials on November 29. On this ship the question has been not so much the completion of all the necessary and desirable repairs but rather to obtain the maximum in repairs within the funds available. The rank and file of the Mechanical Division have exerted every effort to give the ship the maximum repairs possible within the allotment, and the results are much to their credit.

The steamship *Imperial* was docked and a small amount of underwater repairs carried out, including the fitting of a shoe to her fore foot and work on the rudder. Several vessels of the Dredging fleet were dry-docked and incidental repairs made.

The decision not to carry out the rebuilding of the steamship *Empire* on account of the expense involved being in excess of the worth of the vessel has operated to cause a further reduction in the working force of the Balboa shops. Between October 31 and November 30, 1921, there has been an approximate reduction of 20 per cent in both the gold and silver employees of the Mechanical Division.

#### DREDGING DIVISION.

West Culebra and Barge Repair slides showed no perceptible movement during the month. Cucaracha slide continued to show some movement in certain parts of the slide area near the southern crest. A total of 113,600 cubic yards of material was removed from in front of this slide during the month. There was no inconvenience to Canal traffic from slides during the month.

The total excavation for November, including earth and rock, was 388,700 cubic yards, as follows:

| Cubic yards. | Classified as— |        | Character of work. | Stations.                                                             | Equipment        |
|--------------|----------------|--------|--------------------|-----------------------------------------------------------------------|------------------|
|              | Earth.         | Rock.  |                    |                                                                       |                  |
| 113,600      | 29,500         | 84,100 | Maintenance.....   | <i>Gaillard Cut, Cucaracha.</i><br>1805-00 to 1821-00 E. and W.....   | <i>Paraiso.</i>  |
| 14,000       |                | 14,000 | Construction.....  | <i>Pacific entrance.</i><br>2180-00 to 2210-00 E.....                 | <i>Cascadas.</i> |
| 12,300       | 12,300         |        | Maintenance.....   | 2180-00 to 2210-00 C.....                                             | <i>Cascadas.</i> |
| 60,100       | 60,100         |        | Maintenance.....   | 2217-50 to 2231-50 E.....                                             | <i>No. 86.</i>   |
| 59,200       | 59,200         |        | Maintenance.....   | 2085-00 to 2098-00 C. L. and W.....                                   | <i>No. 84.</i>   |
|              |                |        |                    | 2111-80 to 2124-50 W.....                                             | <i>No. 84.</i>   |
| 48,300       | 48,300         |        | Maintenance.....   | <i>Pacific entrance—Miraflores P. I.</i><br>2085-00 to 2111-60 W..... | <i>No. 84.</i>   |
| 81,200       | 81,200         |        | Maintenance.....   | <i>Balboa inner harbor.</i><br>2217-00 to 2232-00.....                | <i>No. 86.</i>   |
| 388,700      | 290,600        | 98,100 |                    |                                                                       |                  |

The material excavated at the various stations was disposed of as follows:

|                                      | Cubic yards. |
|--------------------------------------|--------------|
| Dumped north of Gamboa.....          | 113,175      |
| Dumped on flats west of Canal.....   | 96,500       |
| Dumped on flats east of Canal.....   | 11,000       |
| Dumped on San Juan fill.....         | 141,300      |
| Dumped at sea, Pacific entrance..... | 26,300       |
| Dumped north of Gold Hill.....       | 425          |
| Total.....                           | 388,700      |

#### MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form.

|                                    | November,<br>1921. | October,<br>1921. | November,<br>1920. |
|------------------------------------|--------------------|-------------------|--------------------|
|                                    | <i>Gallons.</i>    | <i>Gallons.</i>   | <i>Gallons.</i>    |
| Pumping stations.....              | 648,258,750        | 698,577,500       | 791,327,975        |
| Filtration plants.....             | 382,858,000        | 419,324,000       | 494,825,000        |
| Water consumed by Panama City..... | 93,862,000         | 94,136,000        | 89,872,000         |
| Water consumed by Colon.....       | 48,221,250         | 51,470,000        | 69,532,000         |
| Sales of water to vessels.....     | 10,220,274         | 10,181,372        | 14,208,184         |



Construction work, as itemized below, was under progress during the month, with completion on October 31, and November 30, as shown:

|                                                                  | Per cent completed. |          |
|------------------------------------------------------------------|---------------------|----------|
|                                                                  | Oct. 31.            | Nov. 30. |
| Construction of new concrete sea wall, Santo Tomas Hospital..... | 95                  | 97       |
| Extension of roads, new Santo Tomas Hospital.....                | 8                   | 30       |
| Grading of Silver City, Mount Hope.....                          | 85                  | 90       |
| Storm sewer, Diablo Road, at lumber shed.....                    | 86                  | 100      |
| Foundation for statue of Balboa.....                             | 79                  | 79       |
| Extension of sewers, new Santo Tomas Hospital.....               | 36                  | 36       |
| Raising track at Pier No. 6, Cristobal.....                      | 60                  | 100      |
| Extension of sea wall, new Santo Tomas Hospital.....             | 10                  | 35       |
| Installation of electric duct line.....                          |                     | 30       |

## OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                             | November 30, 1921. |        |           | Total occupants. |                |                 |
|-----------------------------|--------------------|--------|-----------|------------------|----------------|-----------------|
|                             | Men.               | Women. | Children. | November, 1921.  | October, 1921. | November, 1920. |
| Americans.....              | 2,644              | 2,131  | 2,306     | 7,081            | 7,020          | 8,363           |
| Europeans.....              | 145                | 39     | 91        | 275              | 261            | 253             |
| West Indians.....           | 4,823              | 2,488  | 5,400     | 12,711           | 12,865         | 10,952          |
| Totals, November, 1921..... | 7,612              | 4,658  | 7,797     | 20,067           |                |                 |
| Totals, October, 1921.....  | 7,748              | 4,627  | 7,771     |                  | 20,146         |                 |
| Totals, November, 1920..... | 8,384              | 4,332  | 6,852     |                  |                | 19,568          |

## WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of November 16, 1921, by departments, together with a comparison of the working force for the preceding month and that of November, 1920:

|                                  | Employees as of November 16, 1921. |         | Total employees. |                |                 |
|----------------------------------|------------------------------------|---------|------------------|----------------|-----------------|
|                                  | Gold.                              | Silver. | November, 1921.  | October, 1921. | November, 1920. |
| Operation and Maintenance:       |                                    |         |                  |                |                 |
| Office.....                      | 29                                 | 33      | 62               | 62             | 67              |
| Electrical.....                  | 156                                | 159     | 315              | 316            | 473             |
| Municipal Engineering.....       | 79                                 | 535     | 614              | 676            | 1,072           |
| Lock Operation.....              | 168                                | 559     | 727              | 718            | 741             |
| Dredging.....                    | 153                                | 720     | 873              | 876            | 1,309           |
| Mechanical.....                  | 487                                | 732     | 1,219            | 1,376          | 2,910           |
| Marine.....                      | 166                                | 368     | 534              | 553            | 689             |
| Fortifications.....              | 41                                 | 181     | 222              | 313            | 682             |
| Totals.....                      | 1,279                              | 3,287   | 4,566            | 4,890          | 7,943           |
| Supply Department:               |                                    |         |                  |                |                 |
| Quartermaster.....               | 172                                | 1,065   | 1,237            | 1,342          | 2,598           |
| Subsistence.....                 | 21                                 | 230     | 251              | 262            | 400             |
| Commissary.....                  | 185                                | 928     | 1,113            | 1,195          | 1,753           |
| Cattle Industry—Plantations..... | 16                                 | 164     | 180              | 181            | 410             |
| Hotel Washington.....            | 8                                  | 83      | 91               | 89             | 102             |
| Totals.....                      | 402                                | 2,470   | 2,872            | 3,069          | 5,263           |
| Accounting Department.....       | 192                                | 7       | 199              | 204            | 262             |
| Health Department.....           | 227                                | 739     | 966              | 980            | 1,074           |
| Executive.....                   | 532                                | 247     | 779              | 787            | 825             |
| Totals.....                      | 951                                | 993     | 1,944            | 1,971          | 2,161           |

|                                      | Employees as of<br>November 16, 1921. |         | Total employees.   |                   |                    |
|--------------------------------------|---------------------------------------|---------|--------------------|-------------------|--------------------|
|                                      | Gold.                                 | Silver. | November,<br>1921. | October,<br>1921. | November,<br>1920. |
| Panama Railroad:                     |                                       |         |                    |                   |                    |
| Superintendent.....                  | 53                                    | 268     | 321                | 271               | 586                |
| Transportation.....                  | 74                                    | 107     | 181                | 188               | 293                |
| Receiving and Forwarding Agency..... | 63                                    | 828     | 891                | 913               | 1,164              |
| Coaling stations.....                | 84                                    | 389     | 473                | 526               | 890                |
| Totals.....                          | 274                                   | 1,592   | 1,866              | 1,898             | 2,933              |
| Grand totals, November, 1921.....    | 2,906                                 | 8,342   | 11,248             |                   |                    |
| Grand totals, October, 1921.....     | 3,061                                 | 8,767   |                    | 11,828            |                    |
| Grand totals, November, 1920.....    | 4,285                                 | 14,015  |                    |                   | 18,300             |

\* Includes employees of former Building Division.

#### SCHOOLS.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone, for the month of November, 1921:

|                                      | White.  | Colored. | Total.  |
|--------------------------------------|---------|----------|---------|
| Gross enrollment.....                | 1,777   | 1,514    | 3,291   |
| Net enrollment.....                  | 1,747   | 1,494    | 3,241   |
| Average daily attendance.....        | 1,585.7 | 1,273.1  | 2,858.8 |
| Pupils neither absent nor tardy..... | 961     | 535      | 1,496   |
| Number of cases of tardiness.....    | 324     | 22       | 346     |
| Number of teachers.....              | 78      | 32       | 110     |

#### VITAL STATISTICS.

A total of 220 deaths occurred during the month of November, 1921, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 21.30 per thousand. The 3 leading causes of death were tuberculosis, pneumonia, and diarrhea and enteritis; these 3 diseases caused 37 per cent of all deaths from disease. Among other causes of death were 2 from malaria, 3 from dysentery, and 1 from scarlet fever. Of the total deaths, 91, or 41 per cent, occurred among children under 5 years of age. There were 6 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 340 live births reported during the month, and 23 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 35.16 per thousand population. Deaths among children under 1 year of age numbered 63, giving an infant mortality rate, based on the number of births reported for November, of 185.29 per thousand live births.

Sixty-nine cases of malaria were reported during the month, of which 8 were employees and 61 were nonemployees; of the nonemployees 45 were soldiers. These malarial cases originated as follows: In Colon, 3; in the Canal Zone, 46; and outside of the Canal Zone, 20.

Among other diseases reported during the month were 25 cases of measles, 3 of smallpox, 6 of scarlet fever, 12 of diphtheria, and 1 of poliomyelitis.

#### RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, and cash sales from stock, are shown below in comparative form.

|                                                                                          | November,<br>1921. | October,<br>1921. | November,<br>1920. |
|------------------------------------------------------------------------------------------|--------------------|-------------------|--------------------|
| Materials received on United States requisitions during November, chargeable as follows: |                    |                   |                    |
| Operation and Maintenance .....                                                          | \$41,683 19        | \$98,337 89       | \$1,271,100 48     |
| Construction and equipment .....                                                         |                    |                   | 15,586 13          |
| Miscellaneous .....                                                                      | 3,866 24           | 10,602 48         | 15,127 86          |
| Totals .....                                                                             | 45,549 43          | 108,940 37        | 1,301,814 47       |
| Cash sales on the Isthmus:                                                               |                    |                   |                    |
| Stock .....                                                                              | 20,416 26          | 21,942 32         | 30,996 87          |
| Fuel oil (including sales to ships) .....                                                | 818 65             | 669 17            | 87,063 73          |
| Scrap .....                                                                              | 617 57             | 1,275 21          | 1,408 56           |
| Obsolete and second-hand material .....                                                  | 1,964 37           | 4,439 78          | 734 84             |
| Totals .....                                                                             | 23,816 85          | 28,326 48         | 120,204 00         |
| Sales to steamships from storehouses:                                                    |                    |                   |                    |
| Miscellaneous stock items .....                                                          | 5,497 93           | 4,579 39          | 17,922 57          |
| Fuel oil .....                                                                           | 776 15             | 21 67             | 60,454 45          |
| Totals .....                                                                             | 6,274 08           | 4,601 06          | 78,377 02          |

Respectfully,

JAY J. MORROW,

Governor.

### Record of Good Work on the "Panama."

In connection with the recent completion of the overhauling and general repairing of the steamship *Panama* of the Panama Railroad Steamship Line, the Superintendent of the Mechanical Division issued the following bulletin to all concerned, under date of December 14:

1. A letter has been received from the superintendent of the Panama Railroad congratulating the Mechanical Division on the character of the work performed on the steamship *Panama*. Particular mention was made of the cooperation on the part of all employees with the captain of the vessel and the engineer in charge of the work. Credit is due all employees connected with the overhaul of the steamship *Panama* for the excellent record made.

2. This tribute from the superintendent of the Panama Railroad, together with other evidences of satisfaction on the part of Panama Canal departments, commercial firms and individuals, indicate that the reputation of the Mechanical Division is improving each day. Whether or not this reputation continues to improve depends upon the efforts of each and every employee. It should be needless to point out that the success of the Mechanical Division depends largely upon its reputation.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending December 24, 1921.

| Name of vessel.       | Line or charterer.                   | Arrived.      | Departed.     | Cargo—     |        |
|-----------------------|--------------------------------------|---------------|---------------|------------|--------|
|                       |                                      |               |               | Discharged | Laded. |
|                       |                                      |               |               | Tons.      | Tons.  |
| Ginyo Maru .....      | Toyo Kisen Kaisha .....              | December 18.. | December 19.. | 37         | 72     |
| George Washington...  | Peter Olsen .....                    | December 18.. | December 18.. | 166        | .....  |
| Laura C. Hall .....   | Pacific Metals Trans. Co., Ltd. .... | December 18.. | December 20.. | 8          | .....  |
| Laura C. Hall .....   | Pacific Metals Trans. Co., Ltd. .... | December 21.. | December 21.. | .....      | 68     |
| Takaoka Maru .....    | Nippon Yusen Kaisha .....            | December 21.. | December 21.. | .....      | 20     |
| Neches .....          | U. S. Government (Navy collier) ..   | December 21.. | .....         | 3,750      | .....  |
| Targis .....          | Roland Steamship Line .....          | December 21.. | December 21.. | 99         | .....  |
| Depere .....          | U. S. Shipping Board .....           | December 22.. | December 22.. | .....      | 88     |
| Cristobal .....       | Panama Railroad Steamship Line ..    | December 23.. | .....         | 9,677      | .....  |
| Salvador .....        | Pacific Steam Navigation Co. ....    | December 24.. | December 24.. | 2          | .....  |
| Barima .....          | Pacific Steam Navigation Co. ....    | December 24.. | December 24.. | 2          | .....  |
| U. S. S. Ceasar ..... | U. S. Government .....               | December 24.. | December 24.. | 1          | .....  |

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, November, 1921.\*

| From—                                        | NORTH AMERICA.             |                            |             |                          |              |                  |                          |                |          |          | EUROPE. |          |          |        |        |         |         |                |     |         | Grand total. | East coast of South America. | Per cent of total cargo. |
|----------------------------------------------|----------------------------|----------------------------|-------------|--------------------------|--------------|------------------|--------------------------|----------------|----------|----------|---------|----------|----------|--------|--------|---------|---------|----------------|-----|---------|--------------|------------------------------|--------------------------|
|                                              | UNITED STATES.             |                            |             |                          |              | NORTH AMERICA.   |                          |                |          |          | EUROPE. |          |          |        |        |         |         |                |     |         |              |                              |                          |
|                                              | South At-<br>lantic ports. |                            | Gulf ports. | Total, United<br>States. | West Indies. | Cristobal, C. Z. | Total, North<br>America. | British Isles. | Belgium. | Denmark. | France. | Germany. | Holland. | Italy. | Spain. | Sweden. | Europe² | Total, Europe. |     |         |              |                              |                          |
|                                              | North At-<br>lantic ports. | South At-<br>lantic ports. |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |         |         |                |     |         |              |                              |                          |
| SOUTH AMERICA:                               |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |         |         |                |     |         |              |                              |                          |
| Chile.....                                   | 10,523                     |                            |             | 10,523                   |              | 1,649            | 10,523                   | 11,160         | 6,489    |          | 6,650   | 10,702   | 50       | 9,564  | 5      |         | 4,700   | 49,320         |     | 59,843  | 12.8         |                              |                          |
| Colombia.....                                | 752                        |                            |             | 752                      |              | 1,609            | 2,401                    | 75             |          |          | 259     | 748      |          | 420    | 442    |         |         | 1,914          | 18  | 2,419   | 5            |                              |                          |
| Ecuador.....                                 | 1,741                      |                            |             | 1,741                    |              | 3,999            | 31,094                   | 12,351         |          |          | 60      | 450      |          |        |        |         | 52      | 12,918         |     | 5,294   | 1.1          |                              |                          |
| Peru.....                                    | 27,905                     |                            |             | 27,905                   |              | 421              | 3,144                    | 5,135          |          |          |         |          |          |        |        |         |         | 4,587          |     | 41,822  | 9.6          |                              |                          |
| West coast of South America².....            | 2,723                      |                            |             | 2,723                    |              |                  |                          |                |          |          |         |          |          |        |        |         |         | 9,722          |     | 12,866  | 2.7          |                              |                          |
| Total, South America.....                    | 43,644                     |                            |             | 43,644                   |              | 7,678            | 51,322                   | 28,721         | 6,489    |          | 6,969   | 11,900   | 50       | 9,989  | 447    |         | 9,339   | 73,904         | 18  | 125,244 | 26.7         |                              |                          |
| NORTH AMERICA:                               |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |         |         |                |     |         |              |                              |                          |
| West coast of United States.....             | 99,810                     | 3,621                      | 1,833       | 105,264                  | 3,707        | 122              | 109,093                  | 50,624         | 4,720    | 6,530    | 14,919  | 10,795   | 4,468    | 22,246 | 7,015  | 2,764   | 60,171  | 184,252        | 470 | 293,815 | 62.7         |                              |                          |
| West coast of Canada.....                    | 6,150                      |                            | 1,399       | 7,549                    |              |                  | 7,549                    | 2,708          |          |          | 414     |          | 283      |        |        | 55      | 7       | 3,490          |     | 11,009  | 2.3          |                              |                          |
| West coast of Central America.....           |                            |                            |             |                          | 14           | 358              | 372                      |                |          |          |         |          |          | 40     |        |         |         | 40             |     | 412     | 1.1          |                              |                          |
| Total, North America.....                    | 105,960                    | 3,621                      | 3,232       | 112,813                  | 3,721        | 480              | 117,014                  | 53,332         | 4,720    | 6,530    | 15,333  | 10,795   | 4,751    | 22,286 | 7,015  | 2,819   | 60,171  | 187,752        | 470 | 305,236 | 65.1         |                              |                          |
| ASIA:                                        |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |         |         |                |     |         |              |                              |                          |
| China.....                                   | 6,709                      |                            |             | 6,709                    | 1,500        | 354              | 8,563                    |                |          |          |         |          |          |        |        |         |         |                |     | 8,563   | 1.8          |                              |                          |
| Japan.....                                   | 2,197                      |                            |             | 2,197                    |              |                  | 2,197                    |                |          |          |         |          |          |        |        |         |         |                |     | 2,197   | .5           |                              |                          |
| Philippine Islands.....                      | 5,376                      |                            |             | 5,376                    |              |                  | 5,376                    |                |          |          |         |          |          |        |        |         |         |                |     | 5,376   | 1.2          |                              |                          |
| Far East².....                               | 6,138                      |                            |             | 6,138                    |              |                  | 6,138                    |                |          |          |         |          |          |        |        |         |         |                |     | 13,438  | 2.9          |                              |                          |
| Total, Asia.....                             | 20,420                     |                            |             | 20,420                   | 1,500        | 354              | 22,274                   |                |          |          |         |          |          |        |        |         |         |                |     | 29,574  | 6.4          |                              |                          |
| Australasia                                  |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |         |         |                |     |         |              |                              |                          |
| Hawaiian Islands.....                        | 2,930                      |                            |             | 2,930                    |              |                  | 2,930                    | 5,775          |          |          |         |          |          |        |        |         |         |                |     | 5,775   | 1.2          |                              |                          |
| Grand totals.....                            | 172,954                    | 3,621                      | 3,232       | 179,807                  | 5,221        | 8,512            | 193,540                  | 87,828         | 11,209   | 6,530    | 22,302  | 22,695   | 4,801    | 32,275 | 7,462  | 2,819   | 76,810  | 274,731        | 488 | 468,759 | 100.0        |                              |                          |
| Per cent of total cargo, November, 1921..... | 36.9                       | .8                         | .7          | 38.4                     | 1.1          | 1.8              | 41.3                     | 18.7           | 2.4      | 1.4      | 4.8     | 4.8      | 1.0      | 6.9    | 1.6    | .6      | 16.4    | 58.6           | 1   | 100.0   |              |                              |                          |
| Per cent of total cargo, October, 1921.....  | 28.9                       | .3                         | .4          | 29.6                     | .8           | 2.4              | 33.7                     | 33.2           | .5       | 3.4      | 2.0     | 5.3      | 1.1      | 1.0    | 1.0    |         | 17.0    | 64.7           |     |         |              |                              |                          |
| Per cent of total cargo, November, 1920..... | 22.1                       | 12.5                       | 2.1         | 36.7                     | 2.2          | 3.1              | 45.2                     | 26.9           |          | 1.8      | .4      | 2.8      | 4.9      | 1.1    | 8.0    | .9      | 9.8     | 53.7           | 1.1 |         |              |                              |                          |

\* General cargo not routed so as to allow segregation between definite ports.

Figures represent tons of 2,240 pounds.



Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, November, 1921.<sup>1</sup>

| From—                                   | SOUTH AMERICA. |           |          |        |                                           | NORTH AMERICA.       |                              |         |                                |               | ASIA.                |        |        |              |                        | AUSTRALASIA. |            |              |                           |                    | Per cent of total cargo. |         |               |     |
|-----------------------------------------|----------------|-----------|----------|--------|-------------------------------------------|----------------------|------------------------------|---------|--------------------------------|---------------|----------------------|--------|--------|--------------|------------------------|--------------|------------|--------------|---------------------------|--------------------|--------------------------|---------|---------------|-----|
|                                         | Chile.         | Colombia. | Ecuador. | Peru.  | West coast of South America. <sup>2</sup> | Total South America. | West coast of United States. | Canada. | West coast of Central America. | Balboa, C. Z. | Total North America. | China. | Japan. | Philippines. | Far East. <sup>2</sup> | Total Asia.  | Australia. | New Zealand. | Australasia. <sup>2</sup> | Total Australasia. |                          | Hawaii. | Grand totals. |     |
| UNITED STATES:                          |                |           |          |        |                                           |                      |                              |         |                                |               |                      |        |        |              |                        |              |            |              |                           |                    |                          |         |               |     |
| North Atlantic ports                    | 4,026          | 189       | 224      | 6,105  | 1,714                                     | 12,258               | 75,163                       | 136     | 643                            |               | 75,942               | 10,552 | 32,286 | 128,20       | 136                    | 63,102       | 102        | 240          | 22,274                    | 22,616             | 2,300                    | 176,218 | 45.6          |     |
| South Atlantic ports                    |                |           |          | 2,567  |                                           | 2,567                | 6,560                        |         | 6                              |               | 6,566                | 2,213  | 8,470  |              | 685                    | 11,308       |            |              |                           | 6,329              |                          | 20,501  | 5.3           |     |
| Gulf ports                              |                |           |          |        |                                           |                      | 6,401                        |         |                                |               | 6,401                | 11,314 | 26,156 | 3,220        | 5,632                  | 46,332       | 4,839      | 1,400        |                           |                    |                          | 59,062  | 15.3          |     |
| Total, United States                    | 4,026          | 189       | 224      | 8,672  | 1,714                                     | 14,825               | 88,124                       | 136     | 649                            |               | 88,909               | 24,079 | 66,912 | 3,358        | 26,453                 | 120,802      | 4,941      | 1,730        | 22,274                    | 28,945             | 2,300                    | 255,781 | 66.2          |     |
| East coast of Mexico.                   |                |           |          |        |                                           |                      | 20,300                       |         | 9,000                          |               | 29,300               |        |        |              |                        |              |            |              |                           |                    |                          | 29,300  | 7.6           |     |
| Atlantic terminus, Cristobal, C. Z.     |                | 638       | 80       | 215    | 1,930                                     | 2,863                | 3,051                        |         | 1,536                          |               | 4,587                |        |        |              |                        |              |            |              |                           |                    |                          | 7,450   | 1.9           |     |
| Total, North America                    | 4,026          | 827       | 304      | 8,887  | 3,644                                     | 17,688               | 111,475                      | 136     | 2,185                          | 9,000         | 122,796              | 24,079 | 66,912 | 3,358        | 26,453                 | 120,802      | 4,941      | 1,730        | 22,274                    | 28,945             | 2,300                    | 292,531 | 75.7          |     |
| EUROPE:                                 |                |           |          |        |                                           |                      |                              |         |                                |               |                      |        |        |              |                        |              |            |              |                           |                    |                          |         |               |     |
| Belgium                                 | 50             |           | 5        | 12     | 459                                       | 526                  | 3,032                        |         |                                |               | 3,032                |        |        |              |                        |              |            |              |                           |                    |                          |         | 3,558         | 9   |
| British Isles                           | 6,323          |           | 530      | 5,145  | 638                                       | 12,636               | 11,355                       | 930     | 300                            |               | 12,585               | 1,200  | 1,200  |              |                        | 2,400        |            | 41,114       |                           | 41,114             | 5,943                    | 74,678  | 19.3          |     |
| France                                  | 147            |           | 35       | 106    | 75                                        | 363                  | 37                           | 360     | 8                              |               | 405                  |        |        |              |                        |              |            |              |                           |                    |                          |         | 768           | 2   |
| Germany                                 | 272            |           |          | 500    | 3,853                                     | 4,631                | 2,258                        |         | 490                            |               | 2,748                |        |        |              |                        |              |            |              |                           |                    |                          |         | 7,379         | 1.9 |
| Holland                                 |                |           |          |        | 740                                       | 740                  | 28                           | 140     |                                |               | 168                  |        |        |              |                        |              |            |              |                           |                    |                          |         | 908           | 2.2 |
| Italy                                   |                |           |          |        | 136                                       | 136                  |                              |         |                                |               |                      |        |        |              |                        |              |            |              |                           |                    |                          |         | 136           | 1   |
| Spain                                   |                |           |          |        | 63                                        | 63                   | 1,747                        |         |                                |               | 1,753                |        |        |              |                        |              |            |              |                           |                    |                          |         | 63            | 1   |
| Sweden                                  |                |           |          |        |                                           |                      | 3,567                        | 464     |                                |               | 4,031                |        |        |              |                        |              |            |              |                           |                    |                          |         | 1,753         | 4   |
| Europe <sup>2</sup>                     |                |           |          |        | 378                                       | 378                  |                              |         |                                |               | 24,722               | 1,200  | 1,200  |              |                        | 2,400        |            | 41,114       |                           | 41,114             | 5,943                    | 93,652  | 24.2          |     |
| Total Europe                            | 6,792          |           | 570      | 5,763  | 6,348                                     | 19,473               | 22,024                       | 1,894   | 804                            |               | 261                  | 15     | 222    |              |                        | 237          |            |              |                           |                    |                          |         | 498           | 1   |
| East coast of South America             |                |           |          |        |                                           |                      | 261                          |         |                                |               | 261                  |        |        |              |                        |              |            |              |                           |                    |                          |         |               |     |
| Grand totals                            | 10,818         | 827       | 874      | 14,650 | 9,992                                     | 37,161               | 133,760                      | 2,030   | 2,989                          | 9,000         | 147,779              | 25,294 | 68,334 | 3,358        | 26,453                 | 123,439      | 4,941      | 42,844       | 22,274                    | 70,059             | 8,243                    | 386,681 | 100.0         |     |
| Per cent of total cargo November, 1921  | 2.8            | 0.2       | 0.2      | 3.8    | 2.6                                       | 9.6                  | 34.6                         | 0.5     | 0.8                            | 2.3           | 38.2                 | 6.5    | 17.7   | 0.9          | 6.8                    | 31.9         | 1.3        | 11.1         | 5.8                       | 18.2               | 2.1                      | 100.0   |               |     |
| Per cent of total cargo, October, 1921  | 6.1            | 0.3       | 0.2      | 1.9    | 2.4                                       | 10.9                 | 31.8                         | 4.4     | 2.2                            |               | 38.4                 | 9.0    | 23.8   | 0.4          | 2.1                    | 35.5         | 2.7        | 9.9          | 2.5                       | 15.1               | 0.1                      |         |               |     |
| Per cent of total cargo, November, 1920 | 25.0           | 0.5       | 0.5      | 3.3    | 10.6                                      | 40.4                 | 15.7                         | 2.1     | 1.0                            |               | 20.7                 | 2.6    | 2.2    | 2.0          | 5.2                    | 11.9         | 11.1       | 10.2         | 5.7                       | 27.0               |                          |         |               |     |

<sup>1</sup> General cargo not routed so as to allow segregation between definite ports.<sup>2</sup> Figures represent tons of 2,240 pounds.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 24, 1921.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.             | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality.          | Line.                            | Length. | Beam. | Salt water draft. | From—         | To—                          | Cargo.           |        | Panama Canal tonnage. |              |
|-------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|-----------------------|----------------------------------|---------|-------|-------------------|---------------|------------------------------|------------------|--------|-----------------------|--------------|
|                   | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |                       |                                  |         |       |                   |               |                              | Nature.          | Tons.  |                       | Gross.       |
| Mesopotamia.      | 17               | 12 08 | 18             | 6 30  | 18                 | 19 02 | 18               | 15 40 | British.              | Westminster Shipping Co          | 373 0   | 50 0  | 25 0              | New York      | Yokohama.                    | Steel            | 5,660  | 4,846                 | 3,502        |
| Los Angeles.      | 17               | 21 35 | 18             | 7 43  | 18                 | 15 40 | 18               | 17 00 | American.             | Union Oil Co                     | 435 0   | 56 0  | 30 0              | Puerto Lobos  | San Francisco.               | Crude oil        | 11,000 | 7,193                 | 4,903        |
| Hoysan Maru       | 18               | 12 09 | 18             | 8 53  | 18                 | 18 10 | 18               | 19 20 | Japanese.             | Mitsui Bussan Kaisha             | 419 5   | 51 5  | 25 2              | Boston        | Union Bay.                   | General          | 7,099  | 6,189                 | 4,440        |
| West Notus        | 18               | 7 50  | 18             | 11 00 | 18                 | 18 51 | 18               | 19 45 | American.             | Swayne & Hoyt                    | 410 0   | 54 0  | 22 8              | Buenos Aires. | San Francisco.               | General          | 5,471  | 6,583                 | 4,914        |
| Arava             | 17               | 16 47 | 18             | 11 45 | 18                 | 20 03 | 18               | 21 12 | British.              | Shaw, Saville & Albion           | 459 5   | 60 5  | 28 3              | London        | Wellington.                  | General          | 6,250  | 10,035                | 7,504        |
| Thomas P. Beal    | 18               | 11 45 | 18             | 12 55 | 18                 | 20 58 | 18               | 22 13 | American.             | Crowell & Thurlow                | 394 0   | 55 1  | 18 0              | New York      | Los Angeles.                 | General          | 2,500  | 7,047                 | 4,998        |
| Iwatean Maru.     | 18               | 18 32 | 19             | 6 40  | 19                 | 14 33 | 19               | 15 35 | Japanese.             | Mitsui Bussan Kaisha             | 385 0   | 51 0  | 15 0              | Port Talbot.  | Seattle.                     | Ballast          | 5,889  | 4,229                 |              |
| Karanga.          | 19               | 4 15  | 19             | 8 52  | 19                 | 16 14 | 19               | 19 10 | British.              | Ellerman & Bucknall S. S. Co     | 433 0   | 57 4  | 19 9              | Hull          | Seattle.                     | Lined oil        | 150    | 8,586                 | 6,905        |
| Acahuja.          | 9                | 20 05 | 20             | 6 10  | 20                 | 13 44 | 20               | 15 05 | British.              | Pacific Steam Navigation Co.     | 215 0   | 33 5  | 14 6              | Cristobal     | Champerico.                  | General          | 273    | 1,273                 | 706          |
| K. R. Kingsbury.  | 19               | 14 27 | 20             | 7 07  | 20                 | 16 05 |                  |       | American.             | Standard Oil Co                  | 440 0   | 58 0  | 32 0              | Cristobal     | Balboa.                      | Crude oil        | 10,881 | 9,033                 | 5,938        |
| Westmoreland.     | 19               | 21 52 | 20             | 8 27  | 20                 | 16 58 |                  |       | British.              | Federal Steam Navigation Co      | 473 0   | 60 0  | 28 6              | Liverpool     | Auckland                     | General          | 9,000  | 10,385                | 7,505        |
| Montrose          | 20               | 12 30 | 20             | 12 52 | 20                 | 19 17 | 20               | 21 00 | British.              | Austral and Steamship Co         | 305 0   | 47 0  | 24 0              | Sabine        | Adelaide.                    | General, sulphur | 4,600  | 4,680                 | 3,441        |
| Targis.           | 20               | 14 04 | 21             | 0 05  | 21                 | 14 03 | 21               | 19 05 | German.               | Roland Steamship Line            | 204 0   | 42 0  | 15 02             | Bremen        | Panama.                      | General          | 741    | 2,174                 | 1,320        |
| S.C. 284 & 285    | 21               | 7 03  | 21             | 7 43  | 21                 | 10 20 |                  |       | American.             | United States Navy               | 445 0   | 58 0  | 25 6              | Cristobal     | Pedro Miguel.                | General          | 8,402  | 7,570                 | 5,507        |
| Takaoka Maru      | 19               | 15 32 | 21             | 8 30  | 21                 | 17 57 | 20               | 20 32 | Japanese.             | Nippon Yusen Kaisha              | 476 0   | 55 0  | 21 3              | New York      | Yokohama.                    | Oil, stores      | 3,750  | 10                    | 122          |
| Neches            | 20               | 16 23 | 21             | 9 02  | 21                 | 18 00 | 22               | 20 25 | American.             | United States Navy               | 81 0    | 23 0  | 10 0              | Monte         | West Coast                   | General          | 5,596  | 5,900                 | 4,416        |
| Laura C. Hall.    | 21               | 8 46  | 21             | 11 40 | 21                 | 19 35 | 22               | 8 17  | Japanese.             | Pacific Metals Corp.             | 385 0   | 51 0  | 25 0              | Cristobal     | Buenaventura.                | General          | 10     | 122                   | 72           |
| Sumatra Maru      | 21               | 8 46  | 21             | 11 40 | 21                 | 19 35 | 22               | 8 17  | Japanese.             | Osaka Shosen Kaisha              | 385 0   | 51 0  | 25 0              | Baltimore.    | Kobe.                        | General          | 5,596  | 5,900                 | 4,416        |
| Cayuco 2220.      | 20               |       | 21             |       | 21                 | 9 30  |                  |       | Panama.               | Lawrence De Leon                 |         |       |                   | Cristobal     | Gatun Lake.                  | Unknown.         | 1      | 1                     | 1            |
| La Nena           | 21               |       | 21             |       | 21                 | 13 47 |                  |       | American.             | Frederick C. Gibson              |         |       |                   | Cristobal     | Gatun Lake.                  | Ballast          | 2,100  | 4,011                 | 2,860        |
| Merchant.         | 21               | 6 58  | 22             | 6 15  | 22                 | 15 19 | 22               | 16 20 | British.              | Charter Steamship Co             | 349 3   | 46 0  | 17 4              | Liverpool     | Seattle.                     | General          | 18     | 1,471                 | 999          |
| Eger              | 21               | 10 28 | 22             | 6 15  | 22                 | 15 21 | 22               | 16 20 | Norwegian.            | Canillo Eitzen & Co.             | 321 5   | 35 2  | 23 0              | New York      | Guayaquil.                   | General          | 3,600  | 4,139                 | 6,883        |
| Rimutaka          | 21               | 20 20 | 22             | 7 23  | 22                 | 17 35 | 23               | 7 52  | British.              | New Zealand Shipping Co.         | 457 0   | 58 0  | 23 0              | London        | Wellington.                  | General          | 3,600  | 4,139                 | 6,883        |
| Steel Mariner.    | 22               | 7 52  | 22             | 12 50 | 22                 | 20 03 | 22               | 21 10 | American.             | United States Steel Products Co. | 424 2   | 56 2  | 26 11             | New York      | Seattle.                     | General          | 2,034  | 7,539                 | 5,448        |
| Pyro              | 21               | 22 10 | 22             | 6 07  | 22                 | 14 28 | 26               | 17 10 | American.             | United States Navy               | 453 0   | 61 1  | 25 7              | Hampton Rds.  | Manila.                      | (s)              |        |                       |              |
| Siota             | 23               | 5 30  | 23             | 7 05  | 23                 | 17 00 |                  |       | American.             | United States Navy               |         |       |                   | Cristobal     | Balboa.                      | Coal             | 9,677  | 10,097                | 8,063        |
| Cristobal         | 23               | 5 30  | 23             | 7 05  | 23                 | 17 00 |                  |       | American.             | Panama Railroad Steamship Line   | 489 5   | 60 0  | 29 0              | Norfolk.      | Balboa.                      | Ballast          | 9,677  | 10,097                | 8,063        |
| Arabia            | 23               | 7 00  | 23             | 7 10  | 23                 | 18 25 |                  |       | Panamanian.           | San Blas Trading Co.             | 103 6   | 24 0  | 9 6               | Colon.        | Cocos Island.                | General          | 400    | 5,367                 | 3,380        |
| Virgine.          | 23               | 7 00  | 23             | 8 15  | 23                 | 17 05 | 23               | 18 05 | French.               | French Line.                     | 358 2   | 49 2  | 17 0              | Antwerp.      | Talcahuano.                  | General          | 400    | 5,367                 | 3,380        |
| Colima.           | 22               | 15 11 | 23             | 8 25  | 23                 | 17 05 | 23               | 20 05 | British.              | Cayzer Irvine & Co.              | 255 0   | 33 0  | 16 8              | Portsmouth.   | Salina Cruz.                 | Ballast          | 1,514  |                       | 994          |
| Mexican.          | 22               | 3 41  | 23             | 8 58  | 23                 | 18 20 | 23               | 19 20 | American.             | American Hawaiian Line.          | 472 3   | 57 2  | 20 8              | Boston        | Seattle.                     | General          | 2,780  | 9,258                 | 6,912        |
| Satsuna           | 22               | 17 49 | 23             | 9 33  | 23                 | 19 33 | 23               | 21 05 | American.             | Barber Steamship Line            | 370 3   | 48 7  | 27 6              | New York      | Hongkong.                    | General          | 6,970  | 5,370                 | 3,810        |
| Julia Luckenbach. | 22               | 23 35 | 23             | 6 13  | 23                 | 20 29 | 23               | 21 35 | American.             | Luckenbach Line                  | 436 0   | 57 0  | 22 0              | New York      | San Francisco.               | General          | 4,217  | 8,543                 | 6,427        |
| Saint Joseph.     | 22               | 10 27 | 23             | 24 24 | 23                 | 16 53 | 24               | 18 00 | French                | French Line                      | 398 0   | 51 0  | 17 0              | Bordeaux.     | San Francisco.               | General.         | 360    | 5,979                 | 4,170        |
|                   |                  |       |                |       |                    |       |                  |       | <sup>1</sup> tug.     |                                  |         |       |                   |               | <sup>2</sup> Mines.          | and              |        |                       | and general. |
|                   |                  |       |                |       |                    |       |                  |       | <sup>3</sup> tug.     |                                  |         |       |                   |               | <sup>4</sup> Motor schooner. |                  |        |                       |              |
|                   |                  |       |                |       |                    |       |                  |       | <sup>5</sup> Collier. |                                  |         |       |                   |               |                              |                  |        |                       |              |

\* Motor rebooner.

\* Motor rebooner.

\* Ammunition ship.

\* Collier.

## \* Transport.

| THROUGH THE CANAL—PACIFIC TO ATLANTIC. |    |       |    |       |    |       |    |       |            |                                  |       |       |      |                |               |                  |        |       |       |
|----------------------------------------|----|-------|----|-------|----|-------|----|-------|------------|----------------------------------|-------|-------|------|----------------|---------------|------------------|--------|-------|-------|
|                                        |    |       |    |       |    |       |    |       |            |                                  |       |       |      |                |               |                  |        |       |       |
| Honduras                               | 18 | 5.57  | 18 | 7.38  | 18 | 15.30 | 19 | 18.50 | French     | Cie. Generale Transatlantique.   | 389.9 | 51.3  | 20.0 | Vancouver      | Hamburg       | General.         | 3,540  | 6,020 | 4,363 |
| Munindies                              | 18 | 9.45  | 18 | 10.53 | 18 | 18.10 | 18 | 18.10 | American   | Munindies Steamship Corp.        | 370.0 | 53.2  | 24.6 | Everett, Wash. | New York.     | Lumber.          | 5,700  | 5,527 | 4,099 |
| George Wash-                           |    |       |    |       |    |       |    |       |            |                                  |       |       |      |                |               |                  |        |       |       |
| ington                                 | 18 | 10.44 | 18 | 14.50 | 19 | 0.33  | 19 | 12.33 | Norwegian. | Peter Olsen.                     | 425.0 | 55.3  | 28.0 | San Francisco. | Berlin.       | (7)              | 8,786  | 7,505 | 5,026 |
| Texas                                  | 19 | 6.00  | 19 | 7.45  | 19 | 15.50 | 19 | 18.40 | American   | Naviera Hawaiian Line.           | 471.0 | 57.2  | 26.0 | San Diego.     | Liverpool.    | General.         | 9,000  | 9,154 | 7,033 |
| Gasulo                                 | 19 | 6.05  | 19 | 8.41  | 19 | 16.50 | 19 | 18.10 | Spanish.   | Navigera Bernco Line.            | 341.0 | 48.0  | 21.6 | Iquique.       | Bordeaux.     | Nitrate.         | 4,880  | 4,297 | 2,898 |
| Oak Branch                             | 19 | 8.00  | 19 | 9.36  | 19 | 18.00 | 19 | 23.35 | British.   | F. W. Ritson.                    | 338.5 | 49.8  | 23.0 | Antofagasta.   | Liverpool.    | General.         | 6,344  | 5,209 | 4,031 |
| Taiho Maru.                            | 19 | 8.30  | 19 | 10.40 | 19 | 19.15 | 19 | 20.30 | Japanese.  | Kokusa Kisen Kaisha.             | 407.2 | 50.8  | 25.6 | Antofagasta.   | Norfolk.      | Nitrate.         | 7,416  | 6,199 | 4,524 |
| George                                 | 19 | 18.00 | 20 | 7.35  | 20 | 16.45 | 21 | 17.58 | French.    | Cie. Generale Transatlantique.   | 410.1 | 52.7  | 16.9 | Valparaiso.    | Angers.       | (8)              | 7,143  | 6,830 | 4,932 |
| C. Hall.                               | 18 | 15.00 | 20 | 7.35  | 20 | 16.23 | 21 | 9.02  | British.   | Pacific Metals Corp.             | 81.0  | 25.0  | 10.0 | Buenaventura.  | Cristobal.    | Coffee, platinum | 48     | 132   | 72    |
| Middleham                              | 20 | 19.00 | 21 | 7.47  | 21 | 15.30 | 21 | 16.28 | British.   | James Chambers Co.               | 389.0 | 50.0  | 24.0 | Callao.        | Falmouth.     | Sugar            | 6,400  | 5,028 | 3,798 |
| Casle                                  | 21 | 5.15  | 21 | 8.30  | 21 | 16.45 | 21 | 18.15 | American.  | Atlantic-Gulf-Pacific Co.        | 391.0 | 52.0  | 19.2 | Seattle.       | Baltimore.    | General.         | 4,800  | 5,148 | 3,522 |
| Harry Lucken-                          |    |       |    |       |    |       |    |       |            |                                  |       |       |      |                |               |                  |        |       |       |
| bach                                   | 21 | 12.30 | 21 | 13.30 | 21 | 21.02 | 21 | 21.35 | American   | Luckenbach Line.                 | 448.9 | 60.2  | 24.1 | San Francisco. | New York      | General.         | 5,000  | 9,202 | 6,853 |
| S. C. 284                              | 21 | 10.20 | 21 | 12.05 | 21 | 16.24 |    |       | American   | United States Navy.              | 110.0 | 16.0  |      | Pedro Miguel.  | Cristobal.    |                  |        |       |       |
| S. C. 286                              | 21 | 10.20 | 21 | 12.05 | 21 | 16.24 |    |       | American   | United States Navy.              | 110.0 | 16.0  |      | Pedro Miguel.  | Cristobal.    |                  |        |       |       |
| Deerfield                              | 21 | 15.45 | 22 | 6.45  | 22 | 14.42 | 22 | 14.42 | American   | Elder Steel Steamship Co.        | 434.3 | 57.7  | 19.8 | Seattle.       | New York      | General, lumber. | 3,682  | 7,893 | 5,647 |
| Jamaica                                | 22 | 4.30  | 22 | 8.07  | 22 | 16.00 |    |       | British    | Pacific Steam Navigation Co.     | 220.0 | 34.0  | 10.3 | Tumaco.        | Pto. Colombia | General.         | 117    | 1,187 | 622   |
| Balboa                                 | 22 | 4.05  | 22 | 8.07  | 22 | 16.07 | 25 | 8.55  | American   | Columbian Maritime Co.           | 190.0 | 19.1  | 15.5 | Tumaco.        | Cristobal.    | Coffee, specie.  | 616    | 741   | 350   |
| Neptune *                              | 21 | 18.00 | 22 | 8.45  | 22 | 16.45 | 23 | 4.10  | American   | United States Navy.              | 520.2 | 65.2  | 20.0 | San Diego.     | Hampton Rds   |                  | 11,075 | 6,425 |       |
| K. R. Kings-                           |    |       |    |       |    |       |    |       |            |                                  |       |       |      |                |               |                  |        |       |       |
| bury                                   | 20 | 16.05 | 22 | 12.07 | 22 | 19.42 | 22 | 19.42 | American.  | Standard Oil Co.                 | 440.0 | 58.0  | 31.5 | Balboa         | London.       | Oil              | 11,500 | 9,033 | 5,938 |
| Uyuses.                                | 22 | 3.30  | 22 | 13.53 | 22 | 22.14 | 23 | 15.00 | Dutch.     | Royal Netherlands W. I. Mail     | 346.2 | 45.2  | 21.0 | Valparaiso     | London.       | General          | 3,856  | 4,145 | 3,057 |
| Anna                                   | 22 | 20.00 | 23 | 7.49  | 23 | 15.25 | 25 | 7.20  | Norwegian. | J. Johannsen.                    | 295.0 | 37.1  | 15.0 | Guayaquil.     | New York      | Cocoa, coffee    | 890    | 1,851 | 1,179 |
| Barma                                  | 23 | 20.05 | 24 | 7.51  | 24 | 15.55 |    |       | British    | Pacific Steam Navigation Co.     | 290.0 | 37.1  | 13.0 | Champerico.    | Cristobal.    | General          | 511    | 1,634 | 871   |
| Fairfield City.                        | 23 | 21.20 | 24 | 8.21  | 24 | 16.03 | 24 | 16.03 | American.  | United States Steel Products Co. | 424.2 | 56.2  | 21.0 | Trenton.       | Philadelphia  | (10)             | 3,569  | 7,539 | 5,448 |
| Cesar *                                | 24 | 7.20  | 24 | 9.41  | 24 | 17.55 |    |       | American.  | United States Government.        | 307.6 | 43.11 | 16.6 | San Diego.     | Hampton Rds   | (11)             | 280    |       |       |
| Salvador                               | 24 | 10.25 | 24 | 11.10 | 24 | 18.05 |    |       | British    | Pacific Steam Navigation Co.     | 215.0 | 33.0  | 15.6 | Guayaquil      | Cristobal.    | General.         | 753    | 1,213 | 692   |
| Siota                                  | 23 | 17.05 | 24 | 10.51 | 24 | 17.55 |    |       | American.  | United States Navy.              | 149.4 | 30.1  |      | Balboa         | Cristobal.    |                  | 3,700  | 5,527 | 4,138 |
| Awildale                               | 24 | 12.15 | 24 | 12.56 | 24 | 18.50 | 24 | 18.50 | American   | Malloy Shipping Co.              | 370.0 | 53.1  | 22.0 | Portland.      | Boston.       | General          | 4,500  | 7,049 | 4,941 |
| Kentuckian.                            | 24 | 12.16 | 24 | 14.07 | 24 | 21.14 | 24 | 21.14 | American.  | American Hawaiian Line.          | 414.0 | 53.7  | 22.0 | Seattle.       | New York.     | General.         |        |       |       |

\* Barley, flour, and general.

\* Nitrate of soda and general.

\* U. S. Navy auxiliary.

\* Licorice root and beans.

\*\* Canned fruit and general (Navy).

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.



## MOVEMENTS OF OCEAN VESSELS—Continued.

## PORT OF CRISTOBAL.

| *ARRIVALS.             |                            |                                  |                           | *DEPARTURES.                          |                            |                                  |                       |
|------------------------|----------------------------|----------------------------------|---------------------------|---------------------------------------|----------------------------|----------------------------------|-----------------------|
| Date.                  | Vessel.                    | Line.                            | From—                     | Date.                                 | Vessel.                    | Line.                            | For—                  |
| Dec. 18                | Abangarez                  | United Fruit Co.                 | New Orleans via Habana.   | Dec. 18                               | Abangarez                  | United Fruit Co.                 | Bocas                 |
| Dec. 18                | Jeanne D'Arc <sup>12</sup> | French Government                | Port-of-Spain, Trinidad.  | Dec. 18                               | Campeche                   | United Fruit Co.                 | Tampico.              |
| Dec. 18                | San Benito                 | United Fruit Co.                 | Boston via wayports.      | Dec. 18                               | San Benito                 | United Fruit Co.                 | Boston via wayports.  |
| Dec. 19                | Parismina                  | United Fruit Co.                 | New Orleans.              | Dec. 21                               | Abangarez                  | United Fruit Co.                 | New Orleans.          |
| Dec. 20                | Pastores                   | United Fruit Co.                 | New York via Habana.      | Dec. 21                               | Pastores                   | United Fruit Co.                 | New York via Habana   |
| Dec. 21                | Abangarez                  | United Fruit Co.                 | Bocas.                    | Dec. 21                               | Stuyvesant                 | Royal Netherlands W. I. Mail     | and Limon.            |
| Dec. 21                | San Blas                   | United Fruit Co.                 | Boston via Habana.        | Dec. 21                               | Jeanne D'Arc <sup>12</sup> | French Government                | Port Orleans.         |
| Dec. 21                | Stuyvesant                 | Royal Netherlands W. I. Mail     | Amsterdam via wayports.   | Dec. 22                               | Parismina                  | United Fruit Co.                 | New Orleans via Bocas |
| Dec. 22                | Columbia                   | N. O. and S. A. Steamship Line   | New Orleans and wayports. | Dec. 22                               | San Blas                   | United Fruit Co.                 | and Habana.           |
| Dec. 22                | Haiti                      | French Line                      | St. Nazaire and wayports. | Dec. 22                               | Columbia                   | N. O. & S. A. Steamship Line     | Boston via Limon.     |
| Dec. 23                | Caribbean                  | Panama Railroad Commissary.      | Cartagena.                | Dec. 22                               | Allanca                    | Panama Railroad Steamship Line.  | New Orleans           |
| Dec. 23                | Grebe <sup>13</sup>        | United States Navy               | Norfolk.                  | Dec. 24                               | Camito                     | Elders & Fyffes, Ltd             | New York via Haiti.   |
| Dec. 23                | Antonio Lopez.             | Spanish Line                     | Habana.                   |                                       |                            |                                  | Kingston.             |
| Dec. 24                | Camito                     | Elders & Fyffes, Ltd             | Port Limon.               |                                       |                            |                                  |                       |
| Dec. 24                | Stuyvesant                 | Royal Netherlands W. I. Mail.    | Port Limon.               |                                       |                            |                                  |                       |
| <sup>12</sup> Cruiser. |                            |                                  |                           | <sup>13</sup> Mine planter and barge. |                            |                                  |                       |
| PORT OF BAILEA         |                            |                                  |                           |                                       |                            |                                  |                       |
| Dec. 18                | Ginyo Maru                 | Toyo Kisen Kaisha                | Valparaiso.               | Dec. 19                               | Ginyo Maru                 | Toyo Kisen Kaisha                | Hongkong.             |
| Dec. 22                | Depere                     | General Steamship Corp. (S. B.). | San Francisco.            | Dec. 22                               | Depere                     | General Steamship Corp. (S. B.). | Valparaiso.           |
| Dec. 22                | Camurian <sup>14</sup>     | British Government               | Guayaquil.                |                                       |                            |                                  |                       |

<sup>14</sup> H. M. S. Cruiser.

Other than ships passing through the Canal.



### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended December 24:

Steamship *K. R. Kingsbury*, dock and undock (without discharging cargo); remove base from broken propeller blade and install new propeller blade; cement hub; scows *No. 131*, dock and undock; stage and clean; scale bottom up to 6-foot draft line; paint bottom 2 coats of anticorrosive and 1 coat of antifouling; redrive or weld all loose rivets under water line; stop all leaks; test all tanks; remove and rake fenders; straighten coaming; remove 5 strongback supports and replace with new style; repair sheave housing; *No. 141*, dock and undock; stage and clean; scale bottom up to 6-foot draft line; paint bottom 2 coats of anticorrosive and 1 coat of antifouling; redrive all loose rivets under water line; stop all leaks, test all tanks and overhaul winding gear; grader *No. 3*, dock and undock; stage and clean; scale bottom up to 7-foot draft line; redrive all loose rivets in hull below water line; stop all leaks, and test all tanks; scow *No. 139*, in addition to work previously reported on scow *No. 139*, the following work is being performed: Dock and undock; stage and clean; scale bottom up to 6-foot draft line; paint 2 coats of anticorrosive and 1 coat of antifouling; remove 3 modified strongbacks; remove and straighten 6 channel irons; renew 6 angles and renew 8 cover plates over wood and install new style plate brackets with double channel iron in place of old type cast brackets; bush 8 sheaves and install bushing on deck; repair wood fillers on 3 strongbacks; remove and replace hopper sheathing and install approximately 50 new pieces in way of repairs; renew rubbing pieces on strongback supports.

#### PREVIOUSLY REPORTED.

Barge *No. 102*, dock and undock; scale and paint; *No. 121*, dock and undock; scale and paint; dredge *No. 86*, dock and undock; scale and paint; minor hull repairs; motorship *Chiralite*, heavy operation and miscellaneous repairs; steamship *Lady Sybil*, heavy operation and miscellaneous hull repairs; launch *No. 405*, installation of new engine bed and light repairs.

The following vessels were at the Cristobal shops for repairs during the week ended December 26:

Steamships *Quibdo*, dock and undock; clean and paint bottom; renew stern bushing; change propeller; repair shoe; install liner on tail shaft, etc.; *Cape May*, make 6 slice bars; repair telemotor system; braze main feed pump float; examine ice machine, etc.; *Balboa*, repair galley stove; make studs and scale boilers; *Jamaica*, install sheaves and brackets at brest of poop for steering chains; *Advance*, *St. Joseph*, *Cristobal*, and *Haiti*, minor repairs.

#### PREVIOUSLY REPORTED.

U. S. N. barge *No. 479*, scrape and paint bottom; test tanks; renew rivets where necessary; scrape and red lead tanks, decks, stanchions, etc.; steamship *Allianca*, repair piping; tug *Engineer*, scale boilers; remetal H. P. crank brass; fit brasses to L. P. link block, etc.; D. B. launch *L-53*, repair bulwarks, rudder head, shoe, lower fender, etc.; install copper patches on hull; overhaul reverse gear; true up pistons; manufacture new ring; overhaul magneto; overhaul air and bilge pump; test and repair tank, etc.

### Official Circulars.

#### Medical Storehouse Transferred.

THE PANAMA CANAL,  
EXECUTIVE OFFICE.

BALBOA HEIGHTS, C. Z., December 20, 1921.  
CIRCULAR NO. 660-58.

Effective January 1, 1922, the Medical Storehouse at Ancon, including the personnel and all stock on hand, will be transferred from the Health Department to the Supply Department and will be consolidated with the General Storehouse at Balboa.

JAY J. MORROW,  
Governor.

### Typewriters for Sale.

The Supply Department has on sale a number of Underwood typewriters, second hand, models 4 and 5. Prices range from \$20 to \$35. Inspection can be made by applying to Storekeeper, S. D., Administration Building, Balboa Heights.

### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution to shipping of such notices and circulars. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

Subscription rates, domestic, \$1.50 per year; foreign, \$2.00; address  
The Panama Canal Record, Balboa Heights, Canal Zone, or  
The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office  
at Cristobal, C. Z., under the Act of March 3, 1879.



Volume XV.

Balboa Heights, C. Z., January 4, 1922.

No. 21.

## Traffic in Calendar Year 1921.

The number of commercial ships which passed through the Panama Canal in the calendar year 1921 was 2,783, an average of 232 a month or 7.6 per day. In the year 1920 the number was 2,814, averaging 234.5 a month. The decrease was 31 ships for the year.

In net tonnage and tolls, however, the year 1921 exceeded 1920. Net tonnage amounted to 11,435,811 tons, Panama Canal measurement, as compared with 10,378,265 tons in the previous year. Tolls aggregated \$10,325,718.02 in 1921, compared with \$10,295,362.21 in 1920.

The cargo carried through the Canal in 1921 amounted to approximately 10,708,338 tons of 2,240 pounds. This figure is 527,771 tons less than the 11,236,119 tons that made the transit in 1920.

The decrease in the number of ships was 1.1 per cent. That in cargo was 4.7 per cent. The increase in net tonnage was slightly over one-half of 1 per cent, and that in tolls about three-tenths of 1 per cent.

## Information Concerning the Canal.

Information concerning the Canal, the procedures in sending vessels through it, fuel, supply and repair facilities, charges, etc., is presented in publications of The Panama Canal which will be furnished promptly on request to The Panama Canal, Balboa Heights, Canal Zone, or Washington, D. C. The principal publications are on file in all American consular offices, from which all essential information may be secured by those who may find this more convenient than correspondence with The Panama Canal direct.

THE PANAMA CANAL RECORD is furnished without charge to steamship interests and consular officers, foreign as well as American. Any who are not now receiving it are invited to request it.

## Tonnage Certificates.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., December 29, 1921.

CIRCULAR No. 673-1.

1. Effective February 1, 1922, a charge of \$50 will be made for original measurement of vessels which appear at the Canal without having been previously measured and without the necessary papers to show such measurement.

2. Delays and inconvenience incident to the measurement of vessels at the Canal may be avoided by vessels providing themselves with the proper certificate before their arrival in Canal waters, as outlined in the pamphlet entitled "Rules and Regulations for the Operation and Navigation of the Panama Canal; Sailing Directions; General Information."

JAY J. MORROW,  
Governor.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, December 31, 1921.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.              | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. |       | Beam. | Salt water draft. | From—         | For—          | Cargo.            |       | Panama Canal tonnage. |       |
|--------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------|-------------------|---------------|---------------|-------------------|-------|-----------------------|-------|
|                    | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  | 322.0   | 322.0 | 52.0  | 17.0              |               |               | Nature.           | Tons. | Gross.                | Net.  |
| Helder             | 24               | 12 58 | 25             | 6 10  | 25                 | 13 08 | 26               | 22 50 | Dutch.       | Royal Netherlands W. I. Mail     | 302.0   | 302.0 | 52.0  | 17.0              | Amsterdam     | Corral        | General           | 2,782 | 5,117                 | 3,807 |
| Netheroy           | 24               | 10 40 | 25             | 7 15  | 25                 | 14 54 | 25               | 15 51 | British.     | Royal Mail Steam Packet Co.      | 430.0   | 430.0 | 58.0  | 17.3              | London        | Portland      | Ballast           | 8,874 | 6,558                 | 5,219 |
| Parana             | 24               | 15 55 | 25             | 9 12  | 25                 | 17 19 | 25               | 18 43 | Danish.      | Orient Steamship Co.             | 387.0   | 387.0 | 54.0  | 24.0              | Antwerp       | Los Angeles.  | General           | 5,879 | 7,088                 | 5,410 |
| Balboa             | 22               | 16 07 | 25             | 8 55  | 25                 | 15 55 | 25               | 16 51 | American.    | Colombian Maritime Co.           | 190.0   | 190.0 | 49.0  | 11.0              | Cristobal     | Buenaventura. | Ballast           | 7,341 | 3,350                 | 2,950 |
| Mayo Maru.         | 25               | 8 20  | 25             | 11 10 | 25                 | 18 24 | 25               | 20 15 | Japanese.    | Toyo Kisen Kaisha                | 400.0   | 400.0 | 53.0  | 25.9              | New York      | Yokohama.     | General           | 7,363 | 6,163                 | 4,376 |
| Treloske.          | 25               | 18 48 | 25             | 12 05 | 25                 | 19 32 | 25               | 21 00 | British.     | Hain Steamship Co.               | 400.2   | 400.2 | 52.1  | 23.6              | Port Arthur.  | Saunceston.   | Case oil, etc.    | 6,500 | 5,769                 | 4,376 |
| Pruth.             | 25               | 15 55 | 26             | 6 28  | 26                 | 15 05 | 26               | 16 20 | British.     | Edward Han & Son.                | 400.0   | 400.0 | 53.0  | 23.6              | New York.     | Suva          | Case oil.         | 6,000 | 5,655                 | 4,204 |
| La Habra.          | 25               | 22 52 | 26             | 7 35  | 26                 | 16 37 | 26               | 18 25 | Norwegian.   | W. Wilhelmsen & Son.             | 421.8   | 421.8 | 57.0  | 26.0              | Tampico       | Loapilla.     | Fuel oil.         | 9,900 | 7,053                 | 5,051 |
| Cape Roman.        | 25               | 23 25 | 26             | 8 55  | 26                 | 17 35 | 26               | 18 46 | American.    | Atl. Gulf & Pac. Line (S. B.)    | 376.0   | 376.0 | 52.0  | 23.0              | Baltimore.    | Los Angeles.  | General.          | 5,600 | 5,142                 | 3,508 |
| Argyll.            | 26               | 6 30  | 26             | 10 50 | 26                 | 18 45 | 26               | 21 30 | French.      | Compagnie de Boleo.              | 320.3   | 320.3 | 40.7  | 24.6              | Tampico.      | Santa Rosa la | Crude oil.        | 3,200 | 3,141                 | 2,096 |
| Hattie Luckenbach. | 26               | 12 23 | 26             | 11 00 | 26                 | 18 48 | 26               | 20 00 | American.    | Luckenbach Line.                 | 331.0   | 331.0 | 47.0  | 25.3              | New Orleans   | Los Angeles.  | General           | 5,000 | 4,808                 | 3,768 |
| Limnea.            | 26               | 2 25  | 26             | 12 50 | 26                 | 19 52 | 26               | 21 30 | British.     | Anglo-Saxon Petroleum Co.        | 412.0   | 412.0 | 53.0  | 17.11             | Southampton.  | San Francisco | Ballast           | 6,090 | 4,324                 | 3,744 |
| Infuku Maru.       | 27               | 6 13  | 27             | 6 45  | 27                 | 14 36 | 27               | 19 52 | Japanese.    | Kokusai Kisen Kaisha             | 385.0   | 385.0 | 51.0  | 26.9              | Galveston.    | Yokohama.     | General           | 7,100 | 5,919                 | 4,465 |
| City of Vancouver. | 27               | 7 38  | 27             | 8 55  | 27                 | 17 11 | 27               | 22 10 | British.     | J. Coughlan & Sons               | 410.5   | 410.5 | 54.1  | 16.6              | Liverpool     | Vancouver.    | General coal.     | 1,590 | 6,614                 | 4,955 |
| Elpenor.           | 27               | 6 42  | 27             | 12 00 | 27                 | 18 41 | 27               | 19 42 | British.     | Alfred Holt & Co.                | 455.0   | 455.0 | 56.0  | 29.2              | New York      | Yokohama.     | General           | 8,618 | 7,831                 | 5,462 |
| Orari.             | 27               | 20 52 | 28             | 6 45  | 28                 | 14 36 | 28               | 15 50 | Japanese.    | New Zealand Shipping Co.         | 400.7   | 400.7 | 60.2  | 27.0              | London        | Dunedin       | General           | 5,200 | 9,827                 | 6,895 |
| Seine Maru.        | 28               | 12 54 | 28             | 7 43  | 28                 | 15 29 | 29               | 7 25  | Japanese.    | Teikoku Steamship Co.            | 425.0   | 425.0 | 53.0  | 23.0              | Norfolk.      | Portland      | Ballast           | 950   | 7,164                 | 5,415 |
| Huason.            | 28               | 13 00 | 29             | 6 30  | 29                 | 13 37 | 29               | 23 54 | Chilean.     | Chilean Steamship Line           | 378.0   | 378.0 | 44.0  | 22.0              | Cristobal     | Valparaiso    | General           | 2,262 | 4,552                 | 3,182 |
| Oriana.            | 28               | 16 55 | 29             | 7 10  | 29                 | 15 22 | 29               | 16 20 | British.     | Pacific Steam Navigation Co.     | 465.0   | 465.0 | 56.0  | 25.6              | Liverpool     | Colonel.      | General           | 2,262 | 8,620                 | 5,345 |
| Caddo.             | 28               | 23 03 | 29             | 8 05  | 29                 | 16 02 | 29               | 19 35 | American.    | Standard Oil Co.                 | 414.5   | 414.5 | 57.0  | 13.6              | New York      | Talara.       | Ballast           | 2,262 | 6,137                 | 4,412 |
| Norset.            | 29               | 6 50  | 29             | 9 05  | 29                 | 17 38 | 29               | 18 30 | American.    | Elder Steel Steamship Co.        | 434.3   | 434.3 | 57.7  | 17.0              | Hamburg       | Seattle.      | General           | 7,893 | 5,613                 | 4,342 |
| Melona.            | 29               | 10 35 | 29             | 11 00 | 29                 | 18 24 | 29               | 19 35 | British.     | Anglo-Saxon Petroleum Co.        | 418.5   | 418.5 | 55.0  | 26.0              | Tampico       | Balboa        | Crude oil         | 7,600 | 6,890                 | 3,752 |
| Bogstad.           | 29               | 7 05  | 29             | 12 00 | 29                 | 19 25 | 29               | 20 50 | Norwegian.   | Glitre Steamship Co.             | 385.1   | 385.1 | 52.0  | 26.0              | Boston        | Kobe          | Cotton, etc       | 7,000 | 5,843                 | 4,288 |
| Eastern Cloud.     | 29               | 13 35 | 30             | 6 15  | 30                 | 15 50 | 30               | 17 05 | American.    | Barber Steamship Line (S. B.)    | 385.0   | 385.0 | 51.2  | 28.0              | New York      | Ilo Ilo       | Case oil, general | 7,732 | 6,242                 | 4,471 |
| Basie Dollar.      | 30               | 6 50  | 30             | 7 25  | 30                 | 16 59 | 31               | 16 10 | British.     | Robert Dollar Line               | 369.0   | 369.0 | 50.0  | 24.1              | New York      | Yokohama.     | Steel pipe, gen.  | 2,707 | 5,215                 | 3,991 |
| Tasmania Maru.     | 30               | 6 55  | 30             | 8 55  | 30                 | 17 02 | 30               | 19 36 | Japanese.    | Kokusai Kisen Kaisha             | 345.0   | 345.0 | 45.0  | 26.4              | New Orleans   | General       | General           | 5,652 | 4,215                 | 2,936 |
| Atlantic City.     | 30               | 2 57  | 30             | 13 00 | 30                 | 19 40 | 30               | 20 40 | American.    | United States Steel Products Co. | 425.0   | 425.0 | 56.0  | 26.1              | New York      | Honolulu      | Steel             | 8,500 | 7,539                 | 5,448 |
| Hawaiian.          | 30               | 12 50 | 31             | 6 30  | 31                 | 15 18 | 31               | 16 15 | American.    | American-Hawaiian Line           | 406.8   | 406.8 | 51.1  | 21.0              | New York      | Champerico.   | General           | 2,782 | 6,039                 | 4,180 |
| Barina.            | 30               | 15 35 | 31             | 7 30  | 31                 | 15 12 | 31               | 17 10 | British.     | Pacific Steam Navigation Co.     | 220.0   | 220.0 | 37.0  | 13.2              | Cristobal     | General       | General           | 800   | 1,631                 | 871   |
| Wagarrata.         | 30               | 20 07 | 31             | 8 45  | 31                 | 16 35 | 31               | 18 00 | British.     | British-India Steam Nav. Co.     | 450.0   | 450.0 | 58.0  | 25.0              | North Shields | Australia     | General           | 1,738 | 3,288                 | 5,227 |
| Gabriel.           | 30               | 10 05 | 31             | 10 55 | 31                 | 18 02 | 31               | 19 18 | American.    | Olyer J. Olsen                   | 225.0   | 225.0 | 43.0  | 16.0              | Cristobal     | San Francisco | Coke              | 478   | 4,838                 | 2,959 |
| Nantaro.           | 25               | 14 55 | 31             | 11 10 | 31                 | 17 58 | 31               | 19 18 | Peruvian     | Peruvian Line                    | 369.0   | 369.0 | 46.0  | 19.6              | Cristobal     | Ilo Ilo       | General           | 585   | 8,699                 | 6,208 |
| Celtic Prince.     | 31               | 12 42 | 31             | 11 55 | 31                 | 19 52 | 31               | 21 10 | British.     | Prince Line, Ltd.                | 448.0   | 448.0 | 56.0  | 28.4              | Boston        | Yokohama.     | General           | 9,000 | 8,699                 | 6,208 |



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Date    | Vessel              | Line                           | From—                   | Date    | Vessel        | Line                           | To—                                        |
|---------|---------------------|--------------------------------|-------------------------|---------|---------------|--------------------------------|--------------------------------------------|
| Dec. 25 | Metapan             | United Fruit Co.               | New Orleans via Habana. | Dec. 25 | Metapan       | United Fruit Company           | Bocas del Toro.                            |
| Dec. 25 | Gen. G. W. Goethals | Panama Railroad Steamship Line | New York via Haiti.     | Dec. 25 | Stuyvesant    | Royal Netherlands W. I. Mail   | Puerto Colombia.                           |
| Dec. 26 | Cartago             | United Fruit Co.               | New Orleans.            | Dec. 25 | Haiti         | French Line                    | Puerto Colombia.                           |
| Dec. 27 | Achilles            | Panama Railroad Steamship Line | Norfolk.                | Dec. 26 | Caribbean     | Panama Railroad Steamship Line | Cartagena.                                 |
| Dec. 27 | Ulua                | United Fruit Co.               | New York via Habana.    | Dec. 26 | Quibdo        | A. & T. Mohk                   | Colon.                                     |
| Dec. 27 | Metapan             | United Fruit Co.               | Bocas del Toro.         | Dec. 27 | Antonio Lopez | Spanish Line                   | Puerto Colombia.                           |
| Dec. 28 | Santa Marta         | United Fruit Co.               | New York via Kingston.  | Dec. 28 | Ulua          | United Fruit Co.               | New York via waypoints.                    |
| Dec. 28 | Sixta               | United Fruit Co.               | Colombian ports.        | Dec. 28 | Metapan       | United Fruit Co.               | New Orleans.                               |
| Dec. 28 | St. Michael         | United States Army             | New York.               | Dec. 29 | Sixtaola      | United Fruit Co.               | New York via Kingston.                     |
| Dec. 28 | St. Michael         | United States Army             | Boston via Port Limon.  | Dec. 29 | Santa Marta   | United Fruit Co.               | New Orleans via Bocas del Toro and Habana. |
| Dec. 31 | San Bruno           | United Fruit Co.               |                         | Dec. 29 | Cartago       | United Fruit Co.               |                                            |

\* 1 Lumber, dynamite, and general.

\* Barley, borax, and nitrate.

\* Dried fruit, borax, coffee, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |                     |                                |                         | *DEPARTURES. |               |                                |                                            |
|------------|---------------------|--------------------------------|-------------------------|--------------|---------------|--------------------------------|--------------------------------------------|
| Date       | Vessel              | Line                           | From—                   | Date         | Vessel        | Line                           | To—                                        |
| Dec. 25    | Metapan             | United Fruit Co.               | New Orleans via Habana. | Dec. 25      | Metapan       | United Fruit Company           | Bocas del Toro.                            |
| Dec. 25    | Gen. G. W. Goethals | Panama Railroad Steamship Line | New York via Haiti.     | Dec. 25      | Stuyvesant    | Royal Netherlands W. I. Mail   | Puerto Colombia.                           |
| Dec. 26    | Cartago             | United Fruit Co.               | New Orleans.            | Dec. 25      | Haiti         | French Line                    | Puerto Colombia.                           |
| Dec. 27    | Achilles            | Panama Railroad Steamship Line | Norfolk.                | Dec. 26      | Caribbean     | Panama Railroad Steamship Line | Cartagena.                                 |
| Dec. 27    | Ulua                | United Fruit Co.               | New York via Habana.    | Dec. 26      | Quibdo        | A. & T. Mohk                   | Colon.                                     |
| Dec. 27    | Metapan             | United Fruit Co.               | Bocas del Toro.         | Dec. 27      | Antonio Lopez | Spanish Line                   | Puerto Colombia.                           |
| Dec. 28    | Santa Marta         | United Fruit Co.               | New York via Kingston.  | Dec. 28      | Ulua          | United Fruit Co.               | New York via waypoints.                    |
| Dec. 28    | Sixta               | United Fruit Co.               | Colombian ports.        | Dec. 28      | Metapan       | United Fruit Co.               | New Orleans.                               |
| Dec. 28    | St. Michael         | United States Army             | New York.               | Dec. 29      | Sixtaola      | United Fruit Co.               | New York via Kingston.                     |
| Dec. 28    | St. Michael         | United States Army             | Boston via Port Limon.  | Dec. 29      | Santa Marta   | United Fruit Co.               | New Orleans via Bocas del Toro and Habana. |
| Dec. 31    | San Bruno           | United Fruit Co.               |                         | Dec. 29      | Cartago       | United Fruit Co.               |                                            |

\* Collier.

\* Transport.

(Continued on page 290, column 2.)

**Financial Receipts and Disbursements, November, 1921.**

BALBOA HEIGHTS, C. Z., December 29, 1921.

*The Honorable, the Secretary of War,  
Washington, D. C.*

SIR: Herewith is a report showing the commissary sales, financial receipts and expenditures, and of the cash balance available in The Panama Canal appropriations for the month of November, 1921, as compared with the preceding month, and with the corresponding month of last year:

|                                                                                          | November, 1921. | October, 1921.  | November, 1920. |
|------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| Cash balance available for expenditure in Canal appropriations.....                      | \$12,255,599.42 | \$12,780,832.78 | \$15,634,339.64 |
| Payments made from appropriations:                                                       |                 |                 |                 |
| By Paymaster on the Isthmus.....                                                         | 1,024,183.32    | 1,049,994.95    | 1,584,678.48    |
| By Disbursing Clerk, Washington.....                                                     | 204,593.51      | 254,957.07      | 1,037,499.84    |
| To Panama Railroad (for commissary books).....                                           | 200,700.36      | 208,320.59      | 348,053.87      |
| Collections on the Isthmus:                                                              |                 |                 |                 |
| Repaid to appropriations.....                                                            | 690,179.71      | 726,870.23      | 1,042,453.79    |
| Commissary and other trust funds.....                                                    | 202,245.56      | 210,858.14      | 349,975.69      |
| Tolls.....                                                                               | 923,061.65      | 1,047,941.02    | 933,926.51      |
| Sales of water.....                                                                      | 3,834.15        | 20,557.30       | 1,347.50        |
| Postal receipts.....                                                                     | 9,365.99        | 9,025.95        | 9,411.20        |
| Licenses, taxes, court fees, fines, etc.....                                             | 3,466.97        | 2,844.60        | 4,200.11        |
| Total collections on the Isthmus.....                                                    | 1,832,154.03    | 2,018,097.24    | 2,341,314.80    |
| Collections by Disbursing Clerk, Washington, D. C.....                                   | 154,010.82      | 132,052.16      | 12,515.38       |
| Deposits with Assistant Treasurer, United States.....                                    | 73,700.00       | 73,400.00       | 61,400.00       |
| Canal Zone and miscellaneous funds:                                                      |                 |                 |                 |
| Receipts—                                                                                |                 |                 |                 |
| Money order funds.....                                                                   | 123,412.13      | 126,062.88      | 164,123.04      |
| Clubhouse funds.....                                                                     | 28,084.14       | 28,595.18       | 34,446.20       |
| Trust funds.....                                                                         | 256.59          |                 | 269.60          |
| Interest.....                                                                            | 1,494.27        | 8,664.64        | 955.07          |
| Total receipts.....                                                                      | 153,247.13      | 163,322.70      | 199,793.91      |
| Disbursements—                                                                           |                 |                 |                 |
| Money order funds.....                                                                   | 164,072.40      | 161,400.00      | 43,557.78       |
| Clubhouse funds.....                                                                     | 30,228.60       | 23,781.54       | 30,234.90       |
| Trust funds.....                                                                         |                 | 78.09           | 1,947.39        |
| Interest.....                                                                            | 706.71          | 723.83          | 357.99          |
| Total disbursements.....                                                                 | 195,007.71      | 185,983.46      | 76,098.06       |
| Pay roll on the Isthmus:                                                                 |                 |                 |                 |
| Maintenance and operation.....                                                           | 655,032.26      | 705,638.73      | 1,128,776.38    |
| Sanitation.....                                                                          | 73,104.49       | 75,601.64       | 82,470.95       |
| Civil Government.....                                                                    | 67,659.89       | 67,195.36       | 67,576.71       |
| Total.....                                                                               | 795,796.64      | 848,435.73      | 1,278,824.04    |
| Requisitions for purchases in the United States.....                                     | 32,881.37       | 342,056.95      | 501,765.49      |
| Sales of commissary supplies:                                                            |                 |                 |                 |
| To The Panama Canal.....                                                                 | 81,989.73       | 93,018.98       | 130,757.23      |
| To steamships, other than those of the United States Government and Panama Railroad..... | 28,929.44       | 36,484.23       | 85,649.75       |
| To the Panama Railroad, including its steamships and Hotel Washington.....               | 20,769.09       | 15,728.19       | 42,360.69       |
| To the United States Government including the Army and Navy.....                         | 90,652.00       | 93,962.85       | 102,526.81      |
| To individuals and companies through charge accounts.....                                | 24,274.56       | 24,475.48       | 26,259.97       |
| To individuals purchasing coupons.....                                                   | 319,944.39      | 345,908.19      | 557,882.58      |
| Totals.....                                                                              | 566,559.21      | 609,577.92      | 945,437.03      |

Respectfully,

JAY J. MORROW,

Governor.

**Postal and Cable Addresses of The Panama Canal.**

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

**Notice to Mariners.—Savanilla Harbor.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., December 29, 1921.

To all concerned—The Colombian Government notifies this office as follows, under date of December 12, 1921:

"The bell buoy, exhibiting a fixed white light, at the head of the railroad wharf at Savanilla Harbor, has been replaced by a red gas buoy exhibiting an intermittent red light."

JAY J. MORROW,  
Governor.

**Northwestern Apples.**

The steamship *Nebraska* of the Royal Mail Steam Packet Company passed through the Canal on January 2 with a cargo that included 140,000 boxes of apples under refrigeration, loaded at Victoria, Seattle, and Portland for Great Britain and the Continent.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending December 31, 1921.**

| Name of vessel.          | Line or charterer.                  | Arrived.      | Departed.     | Cargo—     |        |
|--------------------------|-------------------------------------|---------------|---------------|------------|--------|
|                          |                                     |               |               | Discharged | Laded. |
|                          |                                     |               |               | Tons.      | Tons.  |
| San Benito.....          | United Fruit Co.....                | December 18.. | December 18.. | 10         | 402    |
| Abangarez.....           | United Fruit Co.....                | December 18.. | December 18.. | * 200      | 39     |
| Honduras.....            | French Steamship Line.....          | December 18.. | December 19.. | (*)        | 404    |
| Parismina.....           | United Fruit Co.....                | December 19.. | December 22.. | 669        | 53     |
| Pastores.....            | United Fruit Co.....                | December 20.. | December 21.. | 294        | 86     |
| Targis.....              | Roland Line.....                    | December 20.. | December 21.. | 117        | (*)    |
| Laura C. Hall.....       | Pacific Metals Corp.....            | December 20.. | December 21.. | 48         | 18     |
| Merchant.....            | Charente Steamship Co.....          | December 21.. | December 22.. | 605        | 33     |
| San Blas.....            | United Fruit Co.....                | December 21.. | December 22.. | 10         | 34     |
| Eiger.....               | Caribbean Steamship Line.....       | December 21.. | December 22.. | 150        | (*)    |
| Abangarez.....           | United Fruit Co.....                | December 21.. | December 21.. | 1          | 88     |
| Virginie.....            | French Steamship Line.....          | December 21.. | December 23.. | 20½        | (*)    |
| Jamaica.....             | Pacific Steam Navigation Co.....    | December 22.. | December 22.. | 177        | .....  |
| Ulysses.....             | Royal Netherlands W. I. Mail.....   | December 22.. | December 23.. | 140        | 24     |
| Haiti.....               | French Steamship Line.....          | December 22.. | December 22.. | 17         | .....  |
| Saint Joseph.....        | French Steamship Line.....          | December 22.. | December 24.. | 10         | (*)    |
| Balboa.....              | Caribbean Steamship Line.....       | December 22.. | December 22.. | 616        | .....  |
| Columbia.....            | N. O. & S. A. Steamship Line.....   | December 22.. | December 22.. | 258        | 105    |
| Caribbean.....           | Panama Railroad Steamship Line..... | December 23.. | December 23.. | 750        | .....  |
| Anna.....                | Caribbean Steamship Line.....       | December 23.. | December 24.. | 240½       | (*)    |
| Antonio Lopez.....       | Spanish Steamship Line.....         | December 23.. | December 24.. | 151        | .....  |
| Allianca.....            | Panama Railroad Steamship Line..... | December 24.. | December 24.. | .....      | 1137   |
| Camito.....              | Elders & Fyffes, Ltd.....           | December 24.. | December 24.. | 5          | 1      |
| Salvador.....            | Pacific Steam Navigation Co.....    | December 24.. | December 24.. | 753        | .....  |
| Barima.....              | Pacific Steam Navigation Co.....    | December 24.. | December 24.. | 511        | .....  |
| Stuyvesant.....          | Royal Netherlands W. I. Mail.....   | December 24.. | December 24.. | 80         | .....  |
| Helder.....              | Royal Netherlands W. I. Mail.....   | December 24.. | December 24.. | 162        | .....  |
| Parana.....              | Danish East Asiatic S. S. Co.....   | December 24.. | December 25.. | .....      | 29     |
| Haiti.....               | French Line.....                    | December 24.. | December 25.. | .....      | 205    |
| Stuyvesant.....          | Royal Netherlands W. I. Mail.....   | December 24.. | December 25.. | .....      | 448    |
| Metapan.....             | United Fruit Co.....                | December 25.. | December 25.. | ½          | (*)    |
| Caribbean.....           | Panama Railroad Steamship Line..... | December 25.. | December 26.. | .....      | 32     |
| Antonio Lopez.....       | Spanish Line.....                   | December 25.. | December 27.. | .....      | 594    |
| Jamaica.....             | Pacific Steam Navigation Co.....    | December 25.. | December 28.. | .....      | 36     |
| Gen. G. W. Goethals..... | Panama Railroad Steamship Line..... | December 25.. | December 30.. | 1,348      | 2,475  |
| Mantaro.....             | Peruvian Line.....                  | December 25.. | December 31.. | 2,310      | 579    |
| Cartago.....             | United Fruit Co.....                | December 26.. | December 29.. | 1,107      | 283    |
| Huasco.....              | Chilean Line.....                   | December 26.. | December 29.. | 338        | 938    |
| San Juan.....            | Pacific Mail Steamship Co.....      | December 27.. | December 27.. | 522        | .....  |
| Achilles.....            | Panama Railroad Steamship Line..... | December 27.. | December 30.. | 12,034     | (*)    |
| Ulua.....                | United Fruit Co.....                | December 27.. | December 28.. | 313        | 64     |
| Manavi.....              | Pacific Steam Navigation Co.....    | December 27.. | December 27.. | 170        | .....  |
| Santa Marta.....         | United Fruit Co.....                | December 28.. | December 29.. | 76         | 74     |
| Metapan.....             | United Fruit Co.....                | December 28.. | December 28.. | (*)        | 83     |
| Ansaldo VI.....          | National Navigation Society.....    | December 30.. | December 30.. | 83         | .....  |
| Columbia.....            | Pacific Mail Steamship Co.....      | December 30.. | December 31.. | 945        | 32     |
| San Bruno.....           | United Fruit Co.....                | December 31.. | December 31.. | 40         | 35     |

\* Pounds.

\* No cargo discharged.

\* No cargo laded.



**Report of Cargo Discharged and Laded by Vessels Entering and Clearing  
from Port of Balboa for Week Ending December 31, 1921.**

| Name of vessel.  | Line or charterer.                 | Arrived.      | Departed.     | Cargo—       |              |
|------------------|------------------------------------|---------------|---------------|--------------|--------------|
|                  |                                    |               |               | Discharged   | Laded.       |
|                  |                                    |               |               | <i>Tons.</i> | <i>Tons.</i> |
| Helder.....      | Royal Netherlands W. I. Mail.....  | December 25.. | December 25.. | 252          |              |
| Huasco.....      | Chilean Line.....                  | December 25.. | December 25.. | 1            |              |
| San Juan.....    | Pacific Mail Steamship Co.....     | December 26.. | December 27.. | 1            |              |
| San Joaquin..... | W. Wilhelmsen.....                 | December 29.. |               | 9,300        | 11           |
| Melona.....      | Anglo-Saxon Petroleum Co.....      | December 29.. | December 31.. | 7,600        |              |
| Colombia.....    | Pacific Mail Steamship Co.....     | December 30.. | December 30.. | 141          | 1            |
| Ansaldo VI.....  | Societa Nazionale di Navigazione.. | December 31.. | December 31.. | 19           |              |

**Ships at Canal Repair Shops.**

The following is a report of the vessels and marine equipment at the Balboa shops for repairs during the week ended December 31:

Steamship *Cape May*, examine old telemotor and install new telemotor gear; U. S. S. *Neches*, weld water leg in No. 4 port boiler and calk seams on tube shaft.

PREVIOUSLY REPORTED.

Scows *No. 131*, dock and undock; scale and paint bottom; heavy repairs; *No. 141*, dock and undock; scale and paint bottom; slight repairs; grader *No. 3*, dock and undock; scale and paint bottom; slight repairs; scow *No. 139*, dock and undock; scale and paint bottom; heavy repairs; launch *No. 405*, installation of new engine bed and light repairs; motor ship *Chiralite*, heavy operation and miscellaneous repairs.

The following vessels were at the Cristobal shops for repairs during the week ended January 2:

Steamship *Salvador*, repair feed pump, ice machine, and circulating pump; overhaul windlass brakes; renew deck plates over galley and stokehold; rivet port side and forepart of saloon deck house; draw tail shaft for examination; repack stern gland; lift rudder and rebush gudgeons; repair tank tops; repair boiler, etc.; U. S. S. *Sciota*, repair anchor windlass; steamship *General G. W. Goethals*, calk main deck; braze 2 boiler feed pipes; barges *Nos. 105 and 109*, clean, scale, and paint; test all tanks; stop all leaks, etc.; steamships *Achilles*, manufacture new shaft for jacking gear; make 2 rods for steering engine; remetal and bore crank brasses for main engine, etc.; *San Juan*, remove L. P. go-ahead eccentric sheave; renew and fit new key in shaft and sheave; true up sheave and refit to shaft; repair after windlass and main circulator, etc.; *Manavi*, dock and undock; clean and paint; repair 2 derricks as directed, etc.; *Oriana*, *Santa Marta*, *Mantaro*, *Barima*, motor ship *Kennecott*, tug *Porto Bello*, and U. S. steamer *Nones*, minor repairs.

PREVIOUSLY REPORTED.

U. S. D. B. launch *L-53*, repair bulwarks, rudder head, shoe, lower fender, etc.; install copper patches on hull; overhaul reverse gear; true up pistons; overhaul magneto; overhaul air and bilge pump; test and repair tank, etc.; steamships *Balboa*, repair galley stove; scale boilers, etc.; *Jamaica*, install brackets and sheaves for steering chains.

**A Small Landslide Erroneously Reported.**

On November 15, 1921, persons resident near the village of Pacora, Republic of Panama, about 30 miles from the Pacific end of the Canal, reported a disturbance of the earth, and some reports were circulated that a volcano had appeared. The Governor of The Panama Canal despatched the Chief Hydrographer and the Chief of the Section of Surveys to investigate. They found that the disturbance was a land-



slide on the side of a steep mountain, involving the movement of not over 2,000 cubic yards of material and apparently a purely local and surface movement.

It was considered at the time that the incident was not worth mentioning in THE PANAMA CANAL RECORD. Erroneous newspaper stories were, however, published; and for the purpose of correction this note has been inserted.

### Lithographic Prints of Canal and Panama Scenes.

To meet a demand at popular prices for reproductions of some of the views along the Canal and in Panama, The Panama Canal has had lithographic prints made from 10 official photographs which were colored by hand. The lithographs are in 10 colors and approximately 8 by 10 inches in size, and are mounted on mats about 12 inches wide by 13 inches long, of several styles. They are being sold for 55 cents, or \$5 for the set of 10. The prints may also be purchased unmounted, at 40 cents each or \$3.50 for the set. On the Isthmus they are being sold by the Bureau of Clubs and Playgrounds, and in the United States by The Panama Canal, Washington, D. C. Orders will be accepted by mail and delivered, postage prepaid, on payment of prices as above.

The views are of Gatun, Pedro Miguel and Miraflores locks, with vessels in passage; two of parts of Gaillard Cut; the town and inner harbor at Balboa; a battleship in Gatun Lake; the Cathedral and Plaza, Panama; the tower of the Cathedral in Old Panama; and the bay and village of Taboga.

### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective January 1, 1922:

| Commodities.                                                      | Unit.          | Price.. |
|-------------------------------------------------------------------|----------------|---------|
| Brass, bar, average.....                                          | Lb.            | \$0.29  |
| Brass, sheet, average.....                                        | Lb.            | .40     |
| Bronze, Tobin, average.....                                       | Lb.            | .31     |
| Gasoline, motor grade.....                                        | Gal.           | .40     |
| Metal, yellow.....                                                | Lb.            | .34     |
| Oakum, Navy, spun.....                                            | Lb.            | .175    |
| Oakum, Navy, unspun.....                                          | Lb.            | .175    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Pbl of 42 gals | 3.50    |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70    |
| Oil, ammonia, cylinder.....                                       | Gal.           | .51     |
| Oil, burning.....                                                 | Gal.           | 1.25    |
| Oil, engine, gas, light, in barrels.....                          | Gal.           | .49     |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .675    |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .65     |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | 1.125   |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | 1.04    |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35     |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .55     |
| Oil, kerosene, in drums.....                                      | Gal.           | .20     |
| Oil, kerosene.....                                                | Gal.           | 1.04    |
| Oil, marine engine.....                                           | Gal.           | .99     |
| Paint, lead, white, dry.....                                      | Lb.            | .14     |
| Paint, lead, white, in oil.....                                   | Lb.            | .16     |
| Paint, zinc, white, dry.....                                      | Lb.            | .20     |
| Paint, zinc, white, in oil.....                                   | Lb.            | .20     |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09     |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11     |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .10     |
| Soda, ash.....                                                    | Lb.            | .04     |
| Waste, cotton, colored.....                                       | Lb.            | .175    |
| Waste, cotton, white.....                                         | Lb.            | .20     |

**General Manager, Commissary Division.**

BALBOA HEIGHTS, C. Z., December 23, 1921.

R. K. MORRIS,  
*Chief Quartermaster.*

### Electrical Maintenance and Lamp Renewals.

THE PANAMA CANAL.

DEPT. OF OPERATION AND MAINTENANCE,  
BALBOA HEIGHTS, C. Z., December 27, 1921.

HEADS OF DEPARTMENTS AND DIVISIONS:

Effective January 1, 1922, a new rate schedule for electric current will be put into effect. This new rate schedule includes no lamp renewals or maintenance of house lighting systems. All work orders and accounts covering this class of work will therefore be abolished on that date.

Departments and divisions of The Panama Canal, other departments of the Government, as well as outside interests, will be expected to furnish their own lamp renewals and provide for the maintenance of the lighting systems within buildings which are their respective property.

Hereafter this class of work has been performed by the Electrical Division and the cost of same applied monthly toward determining the cost of electric current, and the rate at which current consumption was billed. If it is desired to have the Electrical Division continue to perform this class of work, a blanket work request covering same should be placed on the Electrical Division prior to January 1, 1922.

W. L. HERSH,  
*Electrical Engineer.*

### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

### Typewriters for Sale.

The Supply Department has on sale a number of Underwood typewriters, second hand, models 4 and 5. Prices range from \$20 to \$35. Inspection can be made by applying to Storekeeper, S. D., Administration Building, Balboa Heights.

### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution to shipping of such notices and circulars. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

**MOVEMENTS OF OCEAN VESSELS**—Continued from page 285.

REPORT OF CRISTOBAL.—continued.

[illegible]

Other than ships passing through the Canal.

H. M. S. cruiser.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal, Washington, D. C.

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at Cristobal, C. Z., under the Act of March 3, 1879.



Volume XV. Balboa Heights, C. Z., January 11, 1922. No. 22.

## Supplement No. 8 to Tariff No. 5.—Tolls.—Pilotage.—Electric Current.— Measurement of Vessels.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., December 30, 1921.

### ITEM 2.—TOLLS.

(Effective November 17, 1921, by Executive Order.)

7. Vessels transiting the Panama Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops will be exempt from payment of tolls.

### ITEM 3.—PILOTAGE.

(Effective November 17, 1921, by Executive Order.)

4. There is no charge for transit pilotage, except for vessels transiting the Canal from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock and shops, in which case a charge for pilotage will be made upon the maximum draft in salt water; rate per foot, or fraction thereof, provided such fraction equals or exceeds 6 inches..... each way.. \$5.00

### ITEM 41.—ELECTRIC CURRENT.

(Effective January 1, 1922.)

1. For metered current consumed by individuals (nonemployees) and companies in the Canal Zone and by employees of The Panama Canal and Panama Railroad Company for commercial use:

|                     |             |        |
|---------------------|-------------|--------|
| First 100 KWH.....  | per KWH..   | \$0.08 |
| Next 200 KWH.....   | per KWH..   | .06    |
| Over 300 KWH.....   | per KWH..   | .04    |
| Minimum charge..... | per month.. | 1.00   |

2. For unmetered current consumed by any interest or activity a rate of one-half cent (\$0.005) per month for each watt of attached load, with a minimum charge of \$1 per month.
3. All services involving attached loads in excess of 1,000 watts shall be metered.
4. All services of any size in which the Electrical Engineer may determine that conditions are such that this flat rate method of charges is not reasonably applicable shall be metered.
5. Above rates do not include lamp renewals or repairs to appliances.

### ITEM 42.—MEASUREMENT OF VESSELS.

(Effective February 1, 1922.)

- For making an original measurement of a vessel to determine its Panama Canal tonnage and issuing a certificate thereof.....\$50.00

JAY J. MORROW,

Governor, The Panama Canal.

President, Panama Railroad Company.

## Notice to Mariners.—Obstructions to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., January 5, 1922.

The master of the steamship *Argosy* has advised by radio that he passed at 1.55 p. m., January 4, at Lat. 9° 46' N. and Long. 79° 52' W., a wreck, showing a stump of a mast about 5 feet above water.

The U. S. S. *Galveston* reports: Warning—Shoals discovered and surveyed, Corinto Harbor, Corinto, Nicaragua. Center of 16-foot shoal, 75 yards in diameter. Carden headlight, bearing 286° true, distance 660 yards.

JAY J. MORROW,

Governor.



**MOVEMENTS OF OCEAN VESSELS.**  
*Week ending at midnight, January 7, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                  | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Salt water draft. | From—              | For—           | Cargo.             |        | Panama Canal tonnage. |       |
|------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------------------|--------------------|----------------|--------------------|--------|-----------------------|-------|
|                        | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |                   |                    |                | Nature.            | Tons.  | Gross.                | Net.  |
| Ansaldo VI             | 30               | 13.10 | 1              | 6.38  | 1                  | 14.36 | 1                | 16.09 | Italian      | Italian Line                     | 393.6   | 51.6  | 17.0              | Genoa.             | Valparaiso.    | General            | 807    | 5,453                 | 3,526 |
| Dakar Maru             | 1                | 6.23  | 1              | 7.30  | 1                  | 15.47 | 1                | 17.00 | Japanese     | Nippon Yusen Kaisha              | 420.0   | 56.0  | 27.7              | New York           | Shanghai       | Steel sheets, etc. | 8,728  | 7,290                 | 5,154 |
| Munro                  | 1                | 4.19  | 1              | 9.15  | 1                  | 16.35 | 1                | 23.12 | American     | Munro Steamship Corporation.     | 333.6   | 44.0  | 23.1              | Mobile             | San Diego      | Steel pipe         | 5,300  | 4,165                 | 3,066 |
| Denver <sup>1</sup>    | 1                | 10.28 | 1              | 11.28 | 1                  | 17.55 | 1                | 17.00 | American     | United States Navy.              | 292.0   | 43.0  | 23.1              | Libertia           | Balboa         |                    |        |                       |       |
| Solana                 | 1                | 9.40  | 1              | 12.17 | 1                  | 19.38 | 2                | 14.59 | American     | Pacific Mail Steamship Co.       | 419.5   | 56.5  | 26.0              | Tampico            | Iquique        | Fuel oil           | 9,090  | 7,013                 | 5,041 |
| Nereus <sup>2</sup>    | 1                | 6.12  | 2              | 6.15  | 2                  | 15.34 | 2                | 16.53 | American     | United States Navy.              | 501.0   | 62.1  | 31.7              | Hampton Rds.       | San Diego      | Coal and general   | 10,437 |                       |       |
| West Isleta            | 1                | 17.43 | 2              | 7.40  | 2                  | 16.38 | 2                | 17.45 | American     | Naweco Line (S. B.)              | 409.8   | 54.2  | 22.0              | Portland           | Los Angeles.   | General            | 2,321  | 6,759                 | 4,900 |
| Kennecott <sup>1</sup> | 1                | 17.58 | 2              | 8.15  | 2                  | 16.40 | 2                | 19.35 | American     | Alaska Steamship Co.             | 345.3   | 49.6  | 19.0              | New York           | Los Angeles.   | General            | 4,000  | 4,593                 | 3,381 |
| Andalusia              | 1                | 11.14 | 2              | 8.20  | 2                  | 17.48 | 2                | 19.08 | Swedish      | Swenska Lloyd                    | 295.0   | 37.0  | 18.1              | New Orleans        | Valparaiso.    | General            | 1,943  | 1,872                 | 1,227 |
| Dochra                 | 1                | 23.19 | 2              | 9.00  | 2                  | 17.47 | 2                | 19.08 | American     | Barber Steamship Line            | 376.0   | 51.0  | 19.1              | New York           | Seattle        | General            | 3,037  | 5,158                 | 3,813 |
| Lady Evelyn            | 27               | 16.02 | 2              | 9.32  | 2                  | 18.56 | 2                | 22.55 | British      | Robert Thompson Dunahon          | 485.0   | 26.1  | 11.2              | Quebec.            | Vancouver      | Ballast            |        | 646                   | 183   |
| Edgar F. Luckenbach    | 2                | 7.40  | 2              | 10.53 | 2                  | 19.02 | 2                | 20.15 | American     | Lukenbach Line                   | 425.0   | 57.3  | 23.0              | New York           | San Francisco. | General            | 5,000  | 8,568                 | 6,696 |
| Equador                | 1                | 5.48  | 2              | 11.40 | 2                  | 20.01 | 3                | 0.13  | American     | Pacific Mail Steamship Co.       | 380.0   | 48.7  | 23.6              | Baltimore.         | San Francisco. | General            | 1,752  | 5,926                 | 4,178 |
| Elmer Brauch.          | 2                | 10.56 | 2              | 12.52 | 2                  | 21.08 | 2                | 22.10 | British      | Nautilus Steamship Co.           | 380.3   | 49.7  | 18.8              | Newcastle-on-Tyne. | Valparaiso.    | General            | 2,356  | 4,965                 | 3,622 |
| Therry <sup>1</sup>    | 2                | 22.51 | 3              | 7.20  | 3                  | 13.34 | 5                | 14.45 | American.    | United States Army               | 448.0   | 58.0  | 26.0              | New York           | Honolulu       | Army supplies.     | 3,040  |                       |       |
| Apple Branch           | 2                | 17.38 | 3              | 11.09 | 3                  | 17.29 | 3                | 18.35 | British      | Nautilus Steamship Co.           | 370.0   | 52.0  | 18.1              | Liverpool          | Valparaiso     | General            | 1,117  | 5,112                 | 3,511 |
| Manavi                 | 27               | 19.10 | 4              | 6.05  | 4                  | 14.25 | 4                | 16.06 | British      | Pacific Steam Navigation Co.     | 216.0   | 35.0  | 12.5              | Cristobal          | Guayaquil      | General            | 224    | 1,357                 | 884   |
| San Juan               | 27               | 19.00 | 4              | 6.19  | 4                  | 14.25 | 4                | 18.10 | American     | Pacific Mail Steamship Co.       | 263.0   | 37.0  | 18.8              | Cristobal          | San Francisco  | General            | 1,889  | 2,379                 | 1,593 |
| Santa Luisa            | 3                | 15.32 | 4              | 7.40  | 4                  | 15.16 | 4                | 17.05 | American     | W. R. Grace & Co.                | 360.2   | 51.6  | 21.8              | New York           | Valparaiso     | General            | 2,122  | 5,694                 | 3,975 |
| Tordenskjold.          | 3                | 11.40 | 4              | 8.47  | 4                  | 17.03 | 4                | 18.20 | Norwegian.   | W. Wilhelmsen                    | 385.0   | 48.0  | 23.6              | Manaus.            | Shanghai       | Sugar              | 5,100  | 3,969                 | 2,945 |
| Somerset               | 4                | 11.55 | 4              | 12.15 | 4                  | 19.02 | 4                | 20.34 | British      | Federal Steam Navigation Co.     | 460.6   | 62.8  | 28.0              | London             | Auckland       | General            | 6,084  | 9,943                 | 7,550 |
| Koehnshavn             | 4                | 12.12 | 4              | 14.52 | 5                  | 15.00 | 5                | 17.15 | Danish       | East Asiatic Steamship Co.       | 361.9   | 49.2  | 24.0              | Copenhagen         | Los Angeles.   | General            | 4,800  | 4,028                 | 3,289 |
| Patuxent <sup>2</sup>  | 10               | 15.53 | 5              | 6.15  | 5                  | 17.06 | 5                | 18.47 | American.    | Wessel Duval & Co. (S. B.)       | 390.0   | 54.0  | 20.2              | New York           | Salvador       | General            | 2,155  | 6,161                 | 4,425 |
| Wolsun                 | 4                | 16.58 | 5              | 6.20  | 5                  | 16.06 | 5                | 17.15 | American.    | United States Navy               | 360.0   | 48.0  | 22.6              | Cristobal          | Balboa         | Coal, general      | 5,407  | 7,742                 | 5,524 |
| Chislane.              | 4                | 11.45 | 5              | 7.18  | 5                  | 17.17 | 5                | 18.47 | Dutch.       | Vinke & Co.                      | 221.9   | 43.0  | 18.0              | Dunkirk.           | Honolulu       | Coke               | 397    | 1,824                 | 1,103 |
| O. J. Olson            | 4                | 13.10 | 5              | 7.22  | 5                  | 17.22 | 5                | 21.53 | American.    | O. J. Olson                      | 360.0   | 43.0  | 18.0              | Dunkirk.           | San Francisco  |                    |        |                       |       |
| Mongolian              | 5                | 6.45  | 5              | 8.17  | 5                  | 18.21 | 5                | 19.36 | British      | Prince Line, Ltd.                | 423.5   | 56.0  | 17.0              | Havre              | Vancouver      | General            | 2,500  | 6,460                 | 4,735 |
| Henry S. Grove         | 5                | 5.11  | 5              | 9.00  | 5                  | 19.21 | 5                | 20.24 | American     | Atl. Gulf & Pac. Steamship Co.   | 404.6   | 54.0  | 27.2              | Baltimore.         | Los Angeles.   | General            | 7,500  | 6,755                 | 4,688 |
| San Francisco          | 5                | 6.50  | 5              | 11.00 | 5                  | 20.33 | 5                | 21.33 | American     | United States Steel Products Co. | 405.0   | 52.0  | 26.4              | Mobile             | Kobe           | Steel rails        | 7,170  | 6,186                 | 4,449 |
| Henry D.               | 5                | 6.20  | 5              | 11.40 | 5                  | 21.35 | 5                | 22.23 | American.    | Union Sulphur Co.                | 356.0   | 51.4  | 25.2              | Sabine             | Los Angeles.   | Sulphur            | 6,800  | 5,367                 | 2,925 |
| Whitton                | 5                | 8.37  | 5              | 12.40 | 5                  | 22.33 | 5                | 23.25 | British      | Canadian Government.             | 400.0   | 52.4  | 21.7              | St. John, N. B.    | Auckland       | General            | 5,279  | 5,956                 | 4,160 |
| Canadian Victor        | 4                | 5.46  | 6              | 6.05  | 6                  | 14.01 | 6                | 18.25 | British      | Pacific Steam Navigation Co.     | 220.0   | 34.0  | 12.6              | Pto. Colombia      | Tunaco.        | General            | 490    | 1,187                 | 622   |
| Jamaica                | 4                | 5.46  | 6              | 6.05  | 6                  | 14.01 | 6                | 18.25 | British      | Pacific Steam Navigation Co.     | 220.0   | 34.0  | 12.6              | Pto. Colombia      | Tunaco.        | General            | 490    | 1,187                 | 622   |

<sup>1</sup> Transport.

<sup>2</sup> Motor ship.

<sup>3</sup> Auxiliary bark.

<sup>4</sup> Tug.

<sup>1</sup> Tug.

<sup>2</sup> Auxiliary bark.

<sup>3</sup> Transport.

<sup>4</sup> Motor ship.

<sup>5</sup> Coll'er.

<sup>6</sup> Cruiser.



## THROUGH THE CANAL—ATLANTIC TO PACIFIC.—continued.

|                              | 3 | 20.40 | 6 | 6.10  | 6 | 14.06 | 7.20.45 | British.  | Pacific Metals Corporation. | 81.0  | 26.0 | 9.0  | Cristobal    | Buenaventura. | General. | 3      | 132   | 72    |
|------------------------------|---|-------|---|-------|---|-------|---------|-----------|-----------------------------|-------|------|------|--------------|---------------|----------|--------|-------|-------|
| Laura C. Hall <sup>1</sup> . | 6 | 9.55  | 6 | 12.55 | 6 | 16.54 | 6.20.33 | British.  | Alfred Holt & Co.           | 392.0 | 49.0 | 16.9 | Liverpool    | Seattle       | General. | 2,982  | 5,450 | 3,459 |
| Memon.                       | 2 | 9.40  | 6 | 12.55 | 6 | 20.26 | 6.21.40 | American. | United States Navy.         | 514.0 | 65.0 | 31.0 | Hampton Rds. | Los Angeles.  | Coal     | 10,000 |       |       |
| Jason <sup>2</sup> .         | 7 | 4.25  | 7 | 6.55  | 7 | 14.46 | 7.15.55 | American. | American-Hawaiian Line      | 407.7 | 53.7 | 23.0 | Boston       | Tacoma.       | General  | 4,000  |       |       |
| Papayan.                     | 7 | 7.00  | 7 | 7.55  | 7 | 17.15 | 7.18.22 | British.  | Commonwealth and Dom. Line. | 426.0 | 54.1 | 22.0 | London.      | Sydney        | General  | 4,014  |       |       |
| Port Lincoln.                | 7 |       |   |       |   |       |         |           |                             |       |      |      |              |               |          |        |       |       |

7 Motor schooner.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                         | 29 | 16.10 | 1 | 6.53  | 1 | 15.41 |   | American. | Howard Lumber Co.                 | 187.3 | 38.0 | 16.7 | San Mig'l Bay | New Orleans   | Logs               | 1,100 | 866   | 730   |
|-------------------------|----|-------|---|-------|---|-------|---|-----------|-----------------------------------|-------|------|------|---------------|---------------|--------------------|-------|-------|-------|
| Irene S. Wilkinson.     | 31 | 22.32 | 1 | 7.56  | 1 | 17.00 | 4 | 14.43     | Panama Railroad Steamship Line    | 356.4 | 45.3 | 19.5 | Guayaquil     | New York      | General            | 1,781 | 4,503 | 2,764 |
| General O. H. Ernst.    | 2  | 0.00  | 2 | 8.10  | 2 | 14.58 | 6 | 20.35     | New Zealand Shipping Co.          | 450.0 | 58.2 | 24.6 | Wellington    | London        | C. S. and general. | 6,000 | 8,459 | 5,060 |
| Pike.                   | 2  | 3.00  | 2 | 8.37  | 2 | 16.35 | 6 | 20.35     | British-India Steam, Nav. Co.     | 449.5 | 58.0 | 23.6 | Portland      | London        | ( <sup>1</sup> )   | 7,500 | 8,324 | 5,352 |
| Woodruff.               | 2  | 6.30  | 2 | 9.49  | 2 | 18.10 | 6 | 23.20     | Royal Mail Packet Co.             | 450.0 | 58.0 | 24.4 | Portland      | London        | General            | 5,000 | 8,578 | 6,388 |
| Nebraska.               | 2  | 10.10 | 2 | 12.12 | 2 | 19.22 | 6 | 23.20     | AH. Gulf & Pacific S. S. Corp.    | 409.6 | 54.1 | 22.0 | Tacoma        | New York      | Lumber, general.   | 8,004 | 9,665 | 5,020 |
| West Haven.             | 20 | 21.45 | 3 | 7.05  | 3 | 14.37 | 4 | 14.37     | W. Willhelmsen                    | 435.4 | 57.1 | 22.6 | Port San Luis | Tampico.      | Balast.            | 6,690 | 7,983 | 5,882 |
| St. Joaquin.            | 3  | 8.05  | 3 | 9.02  | 3 | 16.14 | 4 | 5.55      | Willams Steamship Co.             | 424.2 | 57.7 | 22.6 | Seattle       | New York      | General            | 1,114 | 132   | 72    |
| Willado.                | 2  | 20.30 | 3 | 12.57 | 3 | 20.40 | 6 | 6.10      | Pacific Metals Corporation        | 381.0 | 25.0 | 19.0 | Buenaventura. | Cristobal     | Gold, platinum.    | 6,000 | 5,956 | 4,460 |
| Laura C. Hall.          | 4  | 22.15 | 5 | 7.45  | 5 | 15.45 | 5 | 20.10     | Kokusai Kisen Kaisha.             | 385.0 | 51.0 | 23.0 | Fraser Mill   | Chatham       | Lumber             | 6,000 | 5,956 | 4,460 |
| Tokutoku Maru.          | 5  | 1.30  | 5 | 9.42  | 5 | 16.17 | 6 | 16.33     | Pacific Steam Navigation Co.      | 361.0 | 46.0 | 19.0 | Guayaquil     | New York      | General            | 1,633 | 4,742 | 3,023 |
| Quilpue.                | 5  | 10.45 | 5 | 11.34 | 5 | 18.55 | 6 | 16.33     | Holland-American Line.            | 489.7 | 58.3 | 22.6 | San Pedro     | Rotterdam.    | General            | 6,376 | 8,514 | 6,066 |
| Erndijk.                | 5  | 22.30 | 6 | 7.49  | 6 | 15.16 | 6 | 17.58     | N. A. & Western S. S. Co. (S. B.) | 390.0 | 54.2 | 22.0 | Seattle       | Portland, Me. | Lumber, general    | 3,537 | 6,161 | 4,426 |
| Artigas.                | 6  | 2.30  | 6 | 8.04  | 6 | 16.31 | 6 | 17.58     | Roland Line                       | 377.6 | 50.8 | 23.2 | Corral        | Hamburg       | ( <sup>2</sup> )   | 5,900 | 4,791 | 3,374 |
| Robles.                 | 6  | 2.30  | 6 | 13.32 | 6 | 21.20 | 6 | 17.58     | Pacific Steam Navigation Co.      | 491.5 | 58.2 | 21.0 | Valparaiso    | London        | General            | 7,951 | 7,151 | 4,730 |
| Lobos.                  | 6  | 22.30 | 7 | 7.41  | 7 | 15.30 | 7 | 18.40     | American-Hawaiian Line            | 156.0 | 24.0 | 15.0 | Balboa        | New York      | General            | 4,000 |       |       |
| Patuxent <sup>3</sup> . | 5  | 17.06 | 7 | 7.46  | 7 | 15.12 | 7 | 19.35     | United States Navy                | 385.0 | 51.0 | 21.0 | Melbourne.    | Boston        | General            | 6,800 | 5,945 | 4,561 |
| Eastern.                | 5  | 17.06 | 7 | 8.25  | 7 | 16.55 | 7 | 19.35     | U. S. & A. Lines (S. B.)          | 370.0 | 53.2 | 23.6 | Valparaiso    | New York      | Lumber             | 5,000 | 5,068 | 4,297 |
| Mundella.               | 7  | 2.00  | 7 | 9.33  | 7 | 17.33 | 7 | 18.00     | Munson Steamship Co.              | 350.0 | 42.1 | 18.6 | Valparaiso    | Cristobal     | General            | 691   | 3,666 | 2,577 |
| Palena.                 | 7  | 2.45  | 7 | 11.57 | 7 | 18.45 | 7 | 20.50     | Chilean Line                      | 410.0 | 56.0 | 19.6 | Portland      | New York      | ( <sup>10</sup> )  | 3,000 | 8,199 | 6,250 |
| Liberator.              | 7  | 13.30 | 7 | 14.00 | 7 | 20.33 | 7 | 20.50     | AH. Gulf & Pacific S. S. Co.      |       |      |      |               |               |                    |       |       |       |

<sup>3</sup> Fresh, dried, and canned fruit.<sup>10</sup> Nitrate, bran, beans, metals, sugar, hides, wool, honey, glue, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |                    |                                 |                         | *DEPARTURES. |                |                              |                           |
|------------|--------------------|---------------------------------|-------------------------|--------------|----------------|------------------------------|---------------------------|
| Date.      | Vessel.            | Line.                           | From—                   | Date.        | Vessel.        | Line.                        | For—                      |
| Jan. 1.    | Atenas.            | United Fruit Co.                | New Orleans via Habana. | Jan. 1.      | Atenas.        | United Fruit Co.             | Bocas del Toro.           |
| Jan. 1.    | Gen. W. C. Gorgas. | Panama Railroad Steamship Line. | New York via Haiti.     | Jan. 2.      | Van Rensselaer | Royal Netherlands W. I. Mail | Port Limon.               |
| Jan. 1.    | Van Rensselaer     | Amsterdam.                      | New Orleans.            | Jan. 4.      | Zacapa         | United Fruit Co.             | New Orleans via wayports. |
| Jan. 2.    | Zacapa             | United Fruit Co.                | New Orleans.            | Jan. 4.      | Atenas.        | United Fruit Co.             | New Orleans.              |

(Continued on page 298, column 2.)

# Commercial Traffic Through the Panama Canal in December, 1921, by Trade Routes.

## ATLANTIC TO PACIFIC.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.      | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |                   |
| <i>From east coast of United States to Far East:</i>                    |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| Japanese.....                                                           | 10              | 37,968                    | 43,382            | 57,231            | 37,366          | \$46,958.75 | 67,645            |
| British.....                                                            | 9               | 36,278                    | 44,494            | 54,047            | 34,244          | 45,347.50   | 61,809            |
| United States.....                                                      | 6               | 22,386                    | 29,963            | 36,132            | 22,374          | 27,982.50   | 48,953            |
| Swedish.....                                                            | 1               | 4,122                     | 5,226             | 6,565             | 4,804           | 5,152.50    | 9,188             |
| Norwegian.....                                                          | 1               | 4,061                     | 4,288             | 4,607             | 2,856           | 5,076.25    | 7,000             |
| Totals.....                                                             | 27              | 104,815                   | 127,353           | 158,582           | 101,644         | 130,517.50  | 194,595           |
| <i>United States coastwise:</i>                                         |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 20              | 85,359                    | 104,152           | 128,569           | 83,385          | 106,549.80  | 73,967            |
| <i>From Europe to west coast of United States:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 6               | 22,241                    | 28,358            | 32,460            | 20,225          | 24,356.09   | 13,165            |
| Norwegian.....                                                          | 3               | 12,175                    | 14,572            | 17,758            | 11,816          | 15,218.75   | 17,001            |
| United States.....                                                      | 3               | 7,856                     | 8,795             | 11,394            | 7,542           | 6,830.11    | 478               |
| Japanese.....                                                           | 2               | 7,329                     | 7,837             | 10,854            | 6,733           | 8,982.30    | .....             |
| French.....                                                             | 1               | 3,638                     | 4,170             | 5,796             | 3,689           | 4,547.50    | 360               |
| Totals.....                                                             | 15              | 53,239                    | 63,732            | 78,262            | 50,005          | 59,984.75   | 31,004            |
| <i>From Europe to west coast of South America:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 4               | 15,015                    | 18,419            | 25,366            | 15,340          | 18,768.75   | 9,190             |
| German.....                                                             | 2               | 6,768                     | 7,575             | 8,663             | 5,391           | 8,218.35    | 5,433             |
| Danish.....                                                             | 2               | 6,316                     | 7,396             | 9,281             | 5,929           | 7,772.35    | 8,616             |
| Dutch.....                                                              | 2               | 4,236                     | 6,927             | 6,832             | 4,218           | 5,295.00    | 4,400             |
| Swedish.....                                                            | 1               | 3,430                     | 5,533             | 5,524             | 4,225           | 4,237.50    | 950               |
| French.....                                                             | 1               | 3,147                     | 3,980             | 5,330             | 3,462           | 3,933.75    | 400               |
| Totals.....                                                             | 12              | 38,912                    | 49,830            | 60,996            | 38,565          | 48,275.70   | 28,989            |
| <i>From east coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 6               | 18,897                    | 24,109            | 30,191            | 18,605          | 21,031.03   | 6,195             |
| British.....                                                            | 3               | 9,333                     | 13,637            | 16,688            | 9,856           | 11,666.25   | 7,100             |
| Norwegian.....                                                          | 1               | 866                       | 999               | 1,406             | 875             | 1,082.50    | 18                |
| Totals.....                                                             | 10              | 29,096                    | 38,745            | 48,285            | 29,336          | 33,779.78   | 13,313            |
| <i>From Cristobal, C. Z., to west coast of South America:</i>           |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 4               | 1,325                     | 1,720             | 2,391             | 1,465           | 1,656.25    | 298               |
| Peruvian.....                                                           | 2               | 2,719                     | 5,345             | 9,020             | 4,517           | 3,398.75    | 757               |
| United States.....                                                      | 2               | 672                       | 700               | 1,230             | 744             | 672.00      | 84                |
| Chilean.....                                                            | 1               | 1,811                     | 3,182             | 3,798             | 2,272           | 2,263.75    | 950               |
| Totals.....                                                             | 9               | 6,527                     | 10,947            | 16,439            | 8,998           | 7,990.75    | 2,089             |
| <i>From Europe to Australasia:</i>                                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 8               | 44,400                    | 56,151            | 70,346            | 44,623          | 55,500.00   | 40,269            |
| <i>From United States to Australasia:</i>                               |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 4               | 15,788                    | 17,796            | 21,172            | 14,183          | 19,301.35   | 22,011            |
| United States.....                                                      | 1               | 4,309                     | 4,950             | 6,848             | 4,280           | 5,386.25    | 5,419             |
| Totals.....                                                             | 5               | 20,097                    | 22,746            | 28,020            | 18,463          | 24,687.60   | 27,430            |
| <i>From Europe to west coast of Canada:</i>                             |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 7,020                     | 8,784             | 10,304            | 6,467           | 8,786.25    | 5,888             |
| Dutch.....                                                              | 1               | 4,474                     | 6,911             | 7,310             | 4,495           | 5,592.50    | 5,466             |
| Danish.....                                                             | 1               | 3,378                     | 5,219             | 5,497             | 3,425           | 4,222.50    | 5,879             |
| Totals.....                                                             | 4               | 14,881                    | 20,914            | 23,111            | 14,387          | 18,601.25   | 17,233            |
| <i>From Cristobal, C. Z., to west coast of Central America:</i>         |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 3               | 2,164                     | 2,448             | 4,292             | 2,272           | 2,705.00    | 1,584             |
| <i>From Mexico to west coast of South America:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 4,645                     | 5,311             | 7,270             | 4,513           | 5,806.25    | 9,300             |
| Norwegian.....                                                          | 1               | 4,407                     | 5,051             | 7,022             | 4,438           | 5,508.75    | 9,200             |
| Totals.....                                                             | 2               | 9,052                     | 10,362            | 14,292            | 8,951           | 11,315.00   | 18,500            |
| <i>From east coast of South America to west coast of United States:</i> |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 3,522                     | 4,914             | 5,652             | 3,522           | 4,402.50    | 5,471             |
| Norwegian.....                                                          | 1               | 3,260                     | 3,293             | 4,019             | 2,598           | 3,951.60    | 3,000             |
| Totals.....                                                             | 2               | 6,782                     | 8,207             | 9,671             | 6,120           | 8,354.10    | 8,471             |

## ATLANTIC TO PACIFIC.—Continued.

| Route and registry.                                                   | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.     | Tons of cargo.    |
|-----------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------|-------------------|
|                                                                       |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |            |                   |
| <i>From east coast of United States to Gatun Lake:</i>                |                 |                           |                   |                   |                 |            | <i>Long tons.</i> |
| United States.....                                                    | 2               | 5,036                     | 5,751             | 6,533             | 5,241           | \$4,234.86 | .....             |
| <i>From Europe to west coast of Central America:</i>                  |                 |                           |                   |                   |                 |            |                   |
| German.....                                                           | 1               | 1,225                     | 1,320             | 1,928             | 1,136           | 1,531.25   | 741               |
| British.....                                                          | 1               | 847                       | 994               | 1,495             | 917             | 715.68     | .....             |
| Totals.....                                                           | 2               | 2,072                     | 2,314             | 3,423             | 2,053           | 2,246.93   | 741               |
| <i>From east coast of United States to Balboa, C. Z.:</i>             |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                    | 1               | 7,216                     | 8,063             | 9,604             | 7,027           | 9,020.00   | 9,677             |
| <i>Foreign ship in ballast between United States coastwise ports:</i> |                 |                           |                   |                   |                 |            |                   |
| Japanese.....                                                         | 1               | 5,070                     | 5,415             | 6,783             | 4,988           | 6,337.50   | .....             |
| <i>From east coast of Canada to west coast of South America:</i>      |                 |                           |                   |                   |                 |            |                   |
| British.....                                                          | 1               | 5,166                     | 6,096             | 8,764             | 5,511           | 4,389.12   | .....             |
| <i>From Europe to Far East:</i>                                       |                 |                           |                   |                   |                 |            |                   |
| Swedish.....                                                          | 1               | 4,489                     | 5,346             | 5,788             | 4,300           | 5,611.25   | 7,597             |
| <i>From east coast of Canada to Australasia:</i>                      |                 |                           |                   |                   |                 |            |                   |
| British.....                                                          | 1               | 4,403                     | 5,494             | 7,178             | 4,413           | 5,503.75   | 5,155             |
| <i>From east coast of Mexico to west coast of United States:</i>      |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                    | 1               | 4,206                     | 4,903             | 6,752             | 4,206           | 5,257.50   | 11,000            |
| <i>From east coast of South America to Far East:</i>                  |                 |                           |                   |                   |                 |            |                   |
| Japanese.....                                                         | 1               | 3,684                     | 4,241             | 5,850             | 3,642           | 4,605.00   | 3,934             |
| <i>From east coast of Mexico to Balboa, C. Z.:</i>                    |                 |                           |                   |                   |                 |            |                   |
| British.....                                                          | 1               | 3,407                     | 3,752             | 5,948             | 3,714           | 4,258.75   | 7,600             |
| <i>From West Indies to Balboa, C. Z.:</i>                             |                 |                           |                   |                   |                 |            |                   |
| British.....                                                          | 1               | 3,255                     | 3,714             | 5,631             | 3,230           | 4,068.75   | 7,943             |
| <i>Mexican coastwise:</i>                                             |                 |                           |                   |                   |                 |            |                   |
| French.....                                                           | 1               | 2,155                     | 2,096             | 2,953             | 1,880           | 2,515.20   | 3,200             |
| <i>From Cristobal, C. Z., to west coast of United States:</i>         |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                    | 1               | 1,862                     | 2,206             | 3,169             | 1,862           | 2,327.50   | 2,500             |
| <i>Colombian coastwise:</i>                                           |                 |                           |                   |                   |                 |            |                   |
| British.....                                                          | 1               | 614                       | 622               | 1,138             | 602             | 746.40     | 319               |
| <i>Miscellaneous:</i>                                                 |                 |                           |                   |                   |                 |            |                   |
| Panaman.....                                                          | 1               | 69                        | 69                | 123               | 72              | 51.75      | .....             |
| British.....                                                          | 1               | (*)                       | (*)               | (*)               | (*)             | 2,308.00   | .....             |
| Totals.....                                                           | 2               | 69                        | 69                | 123               | 72              | 2,359.75   | .....             |
| Totals, December, 1921.....                                           | 135             | 468,028                   | 575,669           | 720,502           | 459,490         | 571,743.49 | 517,110           |
| Totals, November, 1921.....                                           | 123             | 431,267                   | 539,017           | 671,741           | 429,608         | 528,209.07 | 386,681           |
| Totals, December, 1920.....                                           | 145             | 449,204                   | 554,932           | 698,602           | 441,336         | 554,809.41 | 619,451           |

## PACIFIC TO ATLANTIC.

|                                                    |    |        |         |         |        |              |         |
|----------------------------------------------------|----|--------|---------|---------|--------|--------------|---------|
| <i>United States coastwise:</i>                    |    |        |         |         |        |              |         |
| United States.....                                 | 23 | 94,345 | 116,482 | 144,322 | 94,389 | \$117,600.08 | 105,134 |
| <i>From west coast of South America to Europe:</i> |    |        |         |         |        |              |         |
| British.....                                       | 12 | 48,218 | 59,550  | 76,238  | 48,410 | 60,272.50    | 72,858  |
| Dutch.....                                         | 2  | 3,560  | 5,819   | 5,880   | 3,576  | 4,450.03     | 8,911   |
| French.....                                        | 1  | 4,219  | 4,932   | 6,669   | 4,224  | 5,273.75     | 7,143   |
| German.....                                        | 1  | 3,878  | 4,704   | 6,149   | 3,941  | 4,847.50     | 6,014   |
| Danish.....                                        | 1  | 3,127  | 4,090   | 4,950   | 3,163  | 3,968.75     | 6,328   |
| Chilean.....                                       | 1  | 2,754  | 3,442   | 5,961   | 2,981  | 3,442.50     | 3,118   |
| Spanish.....                                       | 1  | 2,414  | 2,898   | 3,812   | 2,771  | 3,017.50     | 4,830   |
| Totals.....                                        | 19 | 68,170 | 85,435  | 109,659 | 69,066 | 85,212.50    | 109,202 |
| <i>From west coast of United States to Europe:</i> |    |        |         |         |        |              |         |
| United States.....                                 | 5  | 21,851 | 28,201  | 35,193  | 21,895 | 27,313.75    | 40,221  |
| British.....                                       | 4  | 15,575 | 19,287  | 22,959  | 14,449 | 19,256.90    | 29,830  |
| Norwegian.....                                     | 1  | 4,523  | 5,627   | 7,093   | 4,479  | 5,653.75     | 8,896   |
| Japanese.....                                      | 1  | 3,422  | 4,277   | 5,460   | 3,365  | 4,277.50     | 6,687   |
| Danish.....                                        | 1  | 3,368  | 5,263   | 5,497   | 3,425  | 4,210.00     | 6,178   |
| Totals.....                                        | 12 | 48,739 | 62,655  | 76,202  | 47,613 | 60,711.90    | 91,812  |

\* British cruiser of 4,616 tons displacement.

## PACIFIC TO ATLANTIC.—Continued.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.      | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |                   |
| <i>From west coast of South America to east coast of United States:</i> |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| United States.....                                                      | 4               | 8,790                     | 11,462            | 15,098            | 8,975           | \$10,987.50 | 9,144             |
| British.....                                                            | 3               | 12,885                    | 15,315            | 18,416            | 11,110          | 15,860.25   | 11,953            |
| Japanese.....                                                           | 1               | 4,468                     | 4,524             | 6,097             | 4,454           | 5,428.80    | 7,416             |
| Swedish.....                                                            | 1               | 1,091                     | 1,227             | 1,825             | 1,282           | 1,363.75    | 2,121             |
| Norwegian.....                                                          | 1               | 973                       | 1,179             | 1,631             | 975             | 1,216.25    | 1,025             |
| Totals.....                                                             | 10              | 28,207                    | 33,707            | 43,067            | 26,796          | 34,856.55   | 31,659            |
| <i>From west coast of South America to Cristobal, C. Z.:</i>            |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 4               | 1,811                     | 2,532             | 3,321             | 1,980           | 2,263.75    | 1,707             |
| Peruvian.....                                                           | 2               | 2,719                     | 5,345             | 9,020             | 4,517           | 3,398.75    | 4,155             |
| United States.....                                                      | 2               | 672                       | 700               | 1,230             | 744             | 840.00      | 1,236             |
| Chilean.....                                                            | 1               | 1,811                     | 3,182             | 3,798             | 2,272           | 2,263.75    | 338               |
| Totals.....                                                             | 9               | 7,013                     | 11,759            | 17,369            | 9,513           | 8,766.25    | 7,436             |
| <i>From Australasia to Europe:</i>                                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 5               | 26,783                    | 31,395            | 41,486            | 27,182          | 33,301.50   | 32,981            |
| <i>From Far East to United States:</i>                                  |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 3               | 11,705                    | 14,877            | 17,677            | 12,337          | 14,631.25   | 15,511            |
| Japanese.....                                                           | 2               | 7,851                     | 9,695             | 12,915            | 7,924           | 9,813.75    | 12,671            |
| Totals.....                                                             | 5               | 19,556                    | 24,572            | 30,592            | 20,261          | 24,445.00   | 28,182            |
| <i>From west coast of United States to east coast of Mexico:</i>        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 8,029                     | 8,130             | 10,831            | 7,529           | 6,021.75    | .....             |
| United States.....                                                      | 1               | 4,206                     | 4,903             | 6,752             | 4,205           | 3,550.16    | .....             |
| Totals.....                                                             | 2               | 12,235                    | 13,033            | 17,583            | 11,734          | 9,551.91    | .....             |
| <i>From west coast of Canada to Europe:</i>                             |                 |                           |                   |                   |                 |             |                   |
| Dutch.....                                                              | 1               | 4,860                     | 6,068             | 7,651             | 4,796           | 6,075.00    | 8,275             |
| French.....                                                             | 1               | 4,326                     | 4,363             | 5,923             | 3,763           | 5,253.60    | 3,641             |
| Totals.....                                                             | 2               | 9,186                     | 10,431            | 13,574            | 8,559           | 11,328.60   | 11,916            |
| <i>From Balboa, C. Z., to east coast of Mexico:</i>                     |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 6,662                     | 7,466             | 11,579            | 6,944           | 5,375.52    | .....             |
| <i>From west coast of United States to Cristobal, C. Z.:</i>            |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 2               | 3,194                     | 3,799             | 5,322             | 3,171           | 3,992.50    | 911               |
| <i>From west coast of Central America to Cristobal, C. Z.:</i>          |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 1,401                     | 1,577             | 2,731             | 1,463           | 1,751.25    | 632               |
| <i>From Balboa, C. Z., to east coast of United States:</i>              |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 7,216                     | 8,063             | 9,332             | 7,071           | 5,805.36    | .....             |
| <i>From west coast of Canada to east coast of United States:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 5,203                     | 5,624             | 6,861             | 5,122           | 6,503.75    | 7,284             |
| <i>From west coast of South America to east coast of Mexico:</i>        |                 |                           |                   |                   |                 |             |                   |
| Norwegian.....                                                          | 1               | 4,407                     | 5,051             | 7,022             | 4,438           | 3,636.72    | .....             |
| <i>From Australasia to east coast of United States:</i>                 |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 3,475                     | 4,127             | 5,448             | 3,336           | 4,343.75    | 1,347             |
| <i>From Australasia to east coast of Canada:</i>                        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 3,255                     | 4,094             | 5,404             | 3,331           | 4,068.75    | 3,200             |
| <i>From Far East to West Indies:</i>                                    |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 2,743                     | 3,622             | 4,435             | 2,909           | 3,428.75    | 3,000             |
| <i>Mexican coastwise:</i>                                               |                 |                           |                   |                   |                 |             |                   |
| French.....                                                             | 1               | 2,155                     | 2,096             | 2,953             | 1,880           | 1,616.25    | .....             |
| <i>From west coast of Central America to Europe:</i>                    |                 |                           |                   |                   |                 |             |                   |
| German.....                                                             | 1               | 1,118                     | 1,361             | 2,064             | 1,182           | 1,397.50    | 590               |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 614                       | 622               | 1,138             | 602             | 746.40      | 131               |
| <i>Local—Balboa to Cristobal, C. Z.:</i>                                |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 3,448                     | 4,417             | 5,667             | 4,192           | 3,180.24    | .....             |
| Panaman.....                                                            | 1               | 187                       | 187               | 187               | 187             | 233.75      | 526               |
| Totals.....                                                             | 2               | 3,635                     | 4,604             | 5,854             | 4,379           | 3,413.99    | 526               |
| Totals, December, 1921.                                                 | 104             | 359,312                   | 441,575           | 563,997           | 360,941         | 431,854.78  | 435,943           |
| Totals, November, 1921.                                                 | 99              | 322,430                   | 403,394           | 512,416           | 323,278         | 394,839.63  | 468,759           |
| Totals, December, 1920.                                                 | 120             | 383,203                   | 472,986           | 600,262           | 382,422         | 453,039.91  | 457,088           |



### Reductions in Freight Rates.

The Panama Railroad Steamship Line has made the following changes in rates from New York to Cristobal or Colon, under Circular No. 756-160:

Bran, 50 cents per 100 pounds, formerly 64 cents; cement, building, 20 cents per 100 pounds, formerly 32 cents.

Changes in the rates from New York to Panama City have been made, under Circular No. 756-159, as follows:

Sulphur, 29 cents per cubic foot or 58 cents per 100 pounds, formerly 93 cents per cubic foot or \$1.86 per 100 pounds; cement, building, 35 cents per 100 pounds, formerly 48 cents.

In addition to the rates quoted above, the Isthmus transfer charge of \$1 per ton of 40 cubic feet or 2,000 pounds, will be assessed on all shipments except building cement.

### Hamburg-American Line Service to Central America.

The Hamburg-American Line is beginning a service through the Canal, to the west coast of Central America. The steamer *Antiochia*, of 3,100 gross tons, is due to arrive at Cristobal on January 13, from Hamburg via Bremen, Curacao, La Guaira, Puerto Cabello, Puerto Colombia, and Cartagena. After handling cargo at the Canal ports she will proceed up the west coast as far as Champerico, Mexico, calling at one port of each of the Central American countries on the way, and returning to Balboa within about a fortnight of her passage through the Canal.

No advice has been received as to the probable frequency of the service.

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended January 7:

Tug *Mariner*, dock and undock; stage and clean; scale bottom and paint bottom up to 6-foot draft line; conversion of tug from coal burner to oil burner, with the necessary alterations to bulkheads, installation of tanks, boiler fronts, fuel oil heaters, pipe and burners; steamship *Lompoc*, scale and clean all boilers for inspection; general repairs to circulating pump engine and miscellaneous repairs in engineer's department; lower boot-topping line; paint hull below boot-topping line to draft line 1 coat of antifouling; scows *No. 226*; dock and undock; stage and clean; scale bottom and paint bottom up to 6-foot draft line; 2 coats of anticorrosive and 1 coat of antifouling; redrive or weld all loose rivets and weld leaky seams below water line; *No. 140*; dock and undock; stage and clean; scale bottom and paint bottom up to 6-foot draft line; 2 coats of anticorrosive and 1 coat of antifouling; test all tanks; redrive loose rivets; weld leaking seams below water line; renew 2 bits.

The following vessels were at the Cristobal shops for repairs during the week ended January 9:

Steamships *Gen. W. C. Gorgas*, braze whistle pipe; repair shroud turnbuckles; install ladder in hold; renew covering on deck winch steam lines, etc.; *Caribbean*, change worm gear on steering engine; manufacture 12 clips for cattle pens; repair springs for dynamo, etc.; barges *No. 118* and *119*, scrape, scale, and paint bottom; test all tanks; stop all leaks; renew rivets where necessary; U. S. S. *O-15*, renew foundation plate for motor room hatch and install hatch; motor ship *Laura C. Hall*, rebabbitt bearings; repair exhaust pipe, etc.; U. S. oil barge *No. 11*, overhaul pumping engine; clean and paint bottom; renew hatch gasket; calk rivets; grind in suction and discharge valves; repair fender, etc.; steamships *Teviot*, make new bull ring and 8 snap rings; rebore H. P. cylinder, etc.; *Quillota*, overhaul coaling gear; repair M. P. crank pin oil pipe, etc.; *Gen. O. H. Ernst*, *Panama*, *Acajulla*, *Sarpfos*, and U. S. steamer *Nones*, minor repairs.

**Hours of Departure of Passenger Trains.**

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

**Trips Through the Canal.**

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line), Pacific Mail Steamship Company, and Matson Line. The two last named charge \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

**Publication of Notices and Circulars of Interest to Shipping.**

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

**Empty Barrels For Sale.**

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

**Typewriters For Sale.**

The Supply Department has on sale a number of Underwood typewriters, second hand, models 4 and 5. Prices range from \$20 to \$35. Inspection can be had by applying to Storekeeper, S. D., Administration Building, Balboa Heights.

**Sale of Lumber.**

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

**Current Net Prices on Coal, Fuel Oil, and Diesel Oil.**

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or less than 50 tons, the price is \$15 per ton at Cristobal, \$18 at Balboa.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

**Cable Address of The Panama Canal.**

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

**Postal Addresses of The Panama Canal.**

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

**MOVEMENTS OF OCEAN VESSELS—Continued from page 293.**

PORT OF CRISTOBAL—continued.

| *ARRIVALS.     |                |                                 |                         | *DEPARTURES.    |                    |                                 |                        |
|----------------|----------------|---------------------------------|-------------------------|-----------------|--------------------|---------------------------------|------------------------|
| Date.          | Vessel.        | Line.                           | From—                   | Date.           | Vessel.            | Line.                           | For—                   |
| Jan. 2         | Caribbean      | Panama Railroad Steamship Line. | Cartagena.              | Jan. 4          | Tolba              | United Fruit Co.                | New York via wayports. |
| Jan. 3         | San Gil        | United Fruit Co.                | Boston via Habana.      | Jan. 5          | San Gil            | United Fruit Co.                | Boston via Port Limon. |
| Jan. 3         | Tolba          | United Fruit Co.                | New York via Habana.    | Jan. 6          | Gen. W. C. Gorgas. | Panama Railroad Steamship Line. | New York via Haiti.    |
| Jan. 3         | Atenas         | Leyland Line                    | Liverpool via wayports. | Jan. 6          | Caribbean          | Panama Railroad Steamship Line. | Cartagena.             |
| Jan. 4         | Atenas         | United Fruit Co.                | Bocas del Toro.         | Jan. 7          | Bayano             | Elders & Ryffes, Ltd.           | Kingston.              |
| Jan. 4         | Panama         | Panama Railroad Steamship Line. | New York via Haiti.     | Jan. 7          | Antillian          | Leyland Line.                   | Mobile via wayports.   |
| Jan. 7         | Bayano         | United States Navy              | Port Limon.             |                 |                    |                                 |                        |
| Jan. 7         | Owl            | L. T. Williams & Sons           | Hampton Roads.          |                 |                    |                                 |                        |
| Jan. 7         | James Thompson | Royal Mail Steam Packet Co.     | Bluefields.             |                 |                    |                                 |                        |
| Jan. 7         | Teviot         |                                 | Hamburg and wayports.   |                 |                    |                                 |                        |
| 12 And barges. |                |                                 |                         | PORT OF BALBOA. |                    |                                 |                        |
| Jan. 5         | Seiyo Maru     | Toyo Kisen Kaisha               | Hongkong.               | Jan. 6          | Seiyo Maru         | Toyo Kisen Kaisha               | Valparaiso.            |

\*Other than ships passing through the Canal.

# THE PANAMA CANAL RECORD

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Volume XV. Balboa Heights, C. Z., January 18, 1922. No. 23.

## Schedule for Dispatching Ships Through the Canal.

Reference was made in THE PANAMA CANAL RECORD of November 9 to the system of dispatching ships through the Canal on schedule, and to the results obtained under the system up to that time. Subsequent experience has confirmed the effectiveness of the schedule in achieving accurate, safe, and economical handling with slight delays to shipping.

In order that operators and masters may have every opportunity to understand the situation thoroughly, the ship time schedule as now in effect is published below, together with explanatory notes giving the essential rules governing the dispatching of vessels.

Attention is especially invited to the hours by which vessels must arrive at the entrance of the Canal in order to be put through on the day of arrival. These are:

Cristobal inner harbor (Atlantic), 1.30 p. m.

Balboa inner harbor (Pacific), 1.45 p. m. From the anchorage at Balboa to the inner harbor is about 40 to 45 minutes, so that ships should reach the anchorage by 1 p. m. On slack days, when traffic is light it is possible to dispatch ships from Balboa as late as 3 p. m.

It should be noted that the limiting hour at Cristobal is the same as it was prior to the establishment of the schedule. At Balboa the former hour was 3 p. m.; the present limit of 1.45 p. m. is 1 hour and 15 minutes earlier.

The factor which governs the limiting hours is the need of handling the vessels through Gaillard Cut before the end of daylight hours.

The schedule and essential rules are as follows:

### SHIP TIME SCHEDULE, THE PANAMA CANAL.

#### NORTHBOUND.

|                                 | N 1   | N 2   | N 3   | N 4   | N 5   | N 6   |
|---------------------------------|-------|-------|-------|-------|-------|-------|
|                                 | A. M. | A. M. | A. M. | A. M. | A. M. | A. M. |
| Balboa anchorage.....Leave..    | 6.00  | 7.00  | 7.30  | 8.00  | 9.00  | 9.30  |
| Balboa inner harbor.....Leave.. | 6.40  | 7.40  | 8.20  | 8.40  | 9.40  | 10.15 |
| Miraflores.....Arrive..         | 7.25  | 8.25  | 9.05  | 9.25  | 10.25 | 11.00 |
|                                 |       |       |       |       |       | P. M. |
| Pedro Miguel.....Arrive..       | 8.35  | 9.35  | 10.15 | 10.35 | 11.35 | 12.10 |
|                                 | P. M. | P. M. | P. M. | P. M. | P. M. |       |
| Gatun.....Arrive..              | 1.30  | 2.05  | 2.45  | 3.20  | 4.00  | 5.15  |
|                                 |       |       |       |       |       |       |
|                                 | N 7   | N 8   | N 9   | N 10  | N 11  |       |
|                                 | A. M. | A. M. | P. M. |       | P. M. |       |
| Balboa anchorage.....Leave..    | 10.15 | 11.00 | 1.00  | Noon. | 2.00  |       |
| Balboa inner harbor.....Leave.. | 10.55 | 11.45 | 1.45  | P. M. | 2.45  |       |
| Miraflores.....Arrive..         | 11.40 | 12.30 | 2.30  | 1.30  | 3.30  |       |
|                                 | P. M. |       |       |       |       |       |
| Pedro Miguel.....Arrive..       | 1.05  | 1.40  | 2.40  | 2.35  | 4.40  |       |
| Gatun.....Arrive..              | 6.35  | 7.00  | 8.15  | 7.45  | 9.45  |       |



## SOUTHBOUND.

|                            | S 1   | S 2   | S 3   | S 4   | S 5   |
|----------------------------|-------|-------|-------|-------|-------|
|                            | A. M. | A. M. | A. M. | A. M. | A. M. |
| Cristobal..... Leave..     | 6.15  | 7.30  | 8.00  | 8.45  | 9.15  |
| Gatun..... Arrive..        | 7.15  | 8.30  | 9.00  | 9.45  | 10.15 |
|                            | P. M. | P. M. | P. M. | P. M. | P. M. |
| Pedro Miguel..... Arrive.. | 12.10 | 1.10  | 2.10  | 2.55  | 3.20  |
| Miraflores..... Arrive..   | 1.00  | 2.00  | 3.00  | 3.45  | 4.10  |

|                            | S 6   | S 7   | S 8   | S 9    | S 10           |
|----------------------------|-------|-------|-------|--------|----------------|
|                            | A. M. | A. M. | P. M. | A. M.  | A. M.          |
| Cristobal..... Leave..     | 11.00 | 11.50 | 12.55 | 10.30  | 11.45          |
| Gatun..... Arrive..        | Noon. | 12.50 | 1.55  | *11.30 | P. M.<br>12.45 |
|                            | P. M. |       |       | P. M.  |                |
| Pedro Miguel..... Arrive.. | 5.10  | 5.55  | 6.40  | 4.25   | 5.50           |
| Miraflores..... Arrive..   | 6.00  | *6.45 | *7.25 | 5.15   | **6.40         |

## NOTES.

<sup>1</sup> N 5, N 6, N 7, N 8, N 9, N 10, released from schedule at Gamboa.

<sup>2</sup> S 5, S 6, S 7, S 8, S 9, S 10, released from schedule at Pedro Miguel.

<sup>3</sup> Under certain conditions S 4, S 5, S 6, S 7, S 8, S 9, and S 10 may be released from schedule at Gatun.

<sup>4</sup> Ship N 1 will be required to tie up about 30 minutes on arrival at Pedro Miguel, because the locomotive crew will not go on duty until 9 a. m.

<sup>5</sup> Ships N 2, N 6, and N 8 may have to tie up at Pedro Miguel not to exceed 15 minutes, if traffic is heavy.

<sup>6</sup> Ships S 7 and S 8 may have to tie up a short time after passing Pedro Miguel, or on arrival at Miraflores, if traffic is heavy.

<sup>7</sup> When traffic permits, and on Sundays, N 3, N 6, S 3 and S 5 will not be dispatched.

<sup>8</sup> N 1 will be dispatched only when a ship is available in the basin or at the docks in Balboa.

<sup>9</sup> On Sundays and holidays N 3 and N 6 may be dispatched only in case such dispatching will not require the use of more than 10 locomotives simultaneously at Pedro Miguel and Miraflores.

On Sundays and holidays S 3 and S 5 may be dispatched only in case they are 4-car ships.

<sup>10</sup> The following will govern with respect to releasing ships S 6, S 7, S 8, and S 10, at Gatun:

(a) If S 9 is released at Gatun or is not dispatched for the day, S 6 will be released at Gatun with orders to run on S 9 schedule.

(b) If S 6 is released at Gatun or is not dispatched for the day, S 10 will be released at Gatun with orders to run on S 6 schedule, and so on.

(c) The general principle will be followed that if any one of these four ships is omitted for the day, or is released at Gatun, each of the ships which follows on the schedule will be released at Gatun and given a vacant schedule number as far advanced as possible, so as to insure that they arrive at Pedro Miguel in succession at proper intervals and on one of the schedule times shown on the schedule. This is done to avoid having the ships "bunched" at Pedro Miguel, because only one of these ships can be handled there at a time and those arriving ahead of a schedule time must tie up.

"Ship N 11 will *not* be dispatched "tandem" or "double." It will not be dispatched at all if either S 3 or S 5 has been dispatched, nor if both S 6 and S 9 have been dispatched.

If at any time of the day it appears that there will be, within the time limit of the day, more vessels ready to transit the Canal than there are remaining vacant places on the schedule, the remaining ships may be sent "double" or "tandem," on as many of the schedule numbers as necessary to accommodate the excess. The ships will then be handled at the locks in the most practicable manner in order of arrival. The object of this rule is to avoid holding over night ships which are ready to begin transit within the time limit.



## Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended January 13:

Motor ship *James Timpson*, repair dynamo engine; test tail shaft for alignment; barges *Nos. 140*, dock and undock; stage, clean, and scale bottom; paint bottom 2 coats of anticorrosive and 1 coat of antifouling; test tanks; calk all leaky rivets and all seams; *No. 226*, dock and undock; stage, clean, and scale bottom; paint bottom 2 coats of anticorrosive and 1 coat of antifouling; test tanks; calk all leaky rivets and all seams.

## PREVIOUSLY REPORTED.

Tug *Mariner*, dock and undock; stage and clean; scale and paint bottom; convert from coal burner to oil burner, as per specifications; scows *No. 131*, dock and undock; scale and paint bottom; heavy repairs; *No. 139*, dock and undock; scale and paint bottom; heavy repairs; launch *No. 405*, installation of new engine bed and light repairs.

The following vessels were at the Cristobal shops for repairs during the week ended January 16:

Steamships *Gen. H. F. Hodges*, calk deck; fit floor plates and renew angles in fire-room; manufacture new piston rings for ballast pump; clean and cement wash 2 fresh water tanks; repair windlass exhaust line, etc.; *Essequibo*, repair 1 piece of copper pipe; renew and install 5 pieces of hydraulic pipe, etc.; *Lake Elmont*, dry-dock for inspection; *Cristobal*, weld cylinder of blower engine; clean boilers; paint shell of ship; make forgings for neck valves, etc.; *Colon*, repair ice water line, steam heater pipe, and leak in forepeak tank; renew 2 nipples and re-cover part of ice water line on main deck, etc.; *Cartago*, repair steering gear; *Urubamba*, *Caribbean*, *West Katan*, *Crijnsen*, and *Bologna*, minor repairs.

## PREVIOUSLY REPORTED.

Steamships *Teviot*, bore H. P. cylinder and test piston and rod; make new bull ring and snap rings; replace rivets in afterpeak tank; *Salvador*, general overhaul, dry-docking, and painting of hull; U. S. S. *O-15*, renew foundation plate for motor room hatch and install hatch; U. S. S. *Sciota*, overhaul anchor windlass; calk deck at windlass; make 2 ball races.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending January 7, 1922.

| Name of vessel.        | Line or charterer.                  | Arrived.       | Departed.      | Cargo—                    |                  |
|------------------------|-------------------------------------|----------------|----------------|---------------------------|------------------|
|                        |                                     |                |                | Discharged                | Laded.           |
|                        |                                     |                |                | Tons.<br>( <sup>1</sup> ) | Tons.            |
| Atenas.....            | United Fruit Co.....                | January 1..... | January 1..... |                           | 4                |
| Ecuador.....           | Pacific Mail Steamship Co.....      | January 1..... | January 2..... | 35                        | 254              |
| Van Rensselaer.....    | Royal Netherlands W. I. Mail.....   | January 1..... | January 2..... | 14                        | ( <sup>2</sup> ) |
| Andalusia.....         | N. O. & S. A. Steamship Line.....   | January 1..... | January 2..... | 72                        | ( <sup>3</sup> ) |
| Gen. O. H. Ernst.....  | Panama Railroad Steamship Line..... | January 1..... | January 4..... | 167                       | 415              |
| San Juan.....          | Pacific Mail Steamship Co.....      | January 1..... | January 4..... |                           | 1,897            |
| Manavi.....            | Pacific Steam Navigation Co.....    | January 1..... | January 4..... |                           | 244              |
| Gen. W. C. Gorgas..... | Panama Railroad Steamship Line..... | January 1..... | January 6..... | 1,330                     | 610              |
| Zacapa.....            | United Fruit Co.....                | January 2..... | January 4..... | 1,850                     | ( <sup>4</sup> ) |
| Caribbean.....         | Panama Railroad Steamship Line..... | January 2..... | January 6..... | 625                       | 48               |
| Tolosa.....            | United Fruit Co.....                | January 3..... | January 4..... | 157                       | 35               |
| San Gil.....           | United Fruit Co.....                | January 3..... | January 5..... | 32                        | ( <sup>5</sup> ) |
| Antillian.....         | Leyland Steamship Line.....         | January 3..... | January 7..... | 502                       | 328              |
| Laura C. Hall.....     | Pacific Metals Corporation.....     | January 3..... | January 6..... | 14                        | 5                |
| Jamaica.....           | Pacific Steam Navigation Co.....    | January 4..... | January 6..... | 33                        | 174              |
| Atenas.....            | United Fruit Co.....                | January 4..... | January 4..... | 2                         | 86               |
| Quilpue.....           | Pacific Steam Navigation Co.....    | January 5..... | January 6..... | 682                       | 377              |
| Panama.....            | Panama Railroad Steamship Line..... | January 7..... |                | 1,205                     |                  |
| Bayano.....            | Elder & Fyffes, Ltd.....            | January 7..... | January 7..... | 4                         | 1                |
| Palena.....            | Chilean Steamship Line.....         | January 7..... |                | 691                       |                  |
| Teviot.....            | Pacific Steam Navigation Co.....    | January 7..... |                | 100                       |                  |

<sup>1</sup> No cargo discharged.<sup>2</sup> Pounds.<sup>3</sup> No cargo laded.<sup>4</sup> Packages.

## Postal Addresses of The Panama Canal.

The postal address is, The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, January 14, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                      | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line. | Length. | Beam.    | Salt water draft. | From—                            | For— | Cargo.                                |       | Panama Canal tonnage. |              |               |               |        |        |        |
|----------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-------|---------|----------|-------------------|----------------------------------|------|---------------------------------------|-------|-----------------------|--------------|---------------|---------------|--------|--------|--------|
|                            | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |       |         |          |                   |                                  |      | Nature.                               | Tons. |                       | Gross.       | Net.          |               |        |        |        |
| Hamburg Maru               | 7                | 19    | 47             | 8     | 6                  | 35    | 8                | 14    | 22           | 8     | 17      | 10       | Japanese.         | Osaka Shosen Kaisha.             | 400  | 0                                     | 54.5  | 24.0                  | New Orleans. | Yokohama.     | 4,856         | 5,765  | 4,043  |        |
| Mimicola                   | 8                | 4     | 28             | 8     | 12                 | 36    | 8                | 19    | 00           | 8     | 20      | 30       | American.         | W. R. Grace & Co.                | 298  | 6                                     | 40    | 0                     | 17.0         | New York.     | General.      | 1,343  | 2,835  | 1,822  |
| Niagara                    | 9                | 12    | 15             | 9     | 6                  | 35    | 9                | 13    | 58           | 9     | 16      | 30       | American.         | United States Navy               | 243  | 0                                     | 36.3  | 17.6                  | Habana.      | Balboa.       | 6,300         | 5,789  | 4,082  |        |
| Trelisnek                  | 9                | 6     | 47             | 9     | 7                  | 50    | 9                | 16    | 04           | 9     | 17      | 25       | British.          | Edward Hain & Son                | 400  | 9                                     | 52    | 0                     | 26.0         | Texas City.   | Sulphur       | 2,650  | 2,444  | 1,571  |
| North American.            | 9                | 8     | 38             | 9     | 9                  | 10    | 9                | 16    | 32           | 9     | 23      | 30       | British.          | American Metal Transp. Co.       | 251  | 0                                     | 43    | 0                     | 20.0         | Baltimore.    | General.      | 7,100  | 5,914  | 4,389  |
| Singapore Maru             | 9                | 7     | 43             | 9     | 12                 | 05    | 9                | 20    | 01           | 9     | 21      | 46       | Japanese.         | Kokusan Kisen Kaisha             | 385  | 3                                     | 51    | 0                     | 27.5         | Yokohama.     | General.      | 5,650  | 8,237  | 5,771  |
| Kia Ora                    | 9                | 15    | 37             | 10    | 6                  | 35    | 10               | 16    | 20           | 10    | 16      | 20       | British.          | Shaw, Saville & Albion Co        | 448  | 3                                     | 56    | 0                     | 26.6         | Dunedin.      | General.      | 64     | 2,064  | 1,470  |
| Sarpfos                    | 8                | 23    | 07             | 10    | 7                  | 38    | 10               | 15    | 31           | 10    | 17      | 55       | Norwegian.        | Thor. Thorsen.                   | 254  | 8                                     | 39    | 0                     | 11.6         | New York.     | General.      | 554    | 4,768  | 2,956  |
| Dana                       | 10               | 11    | 00             | 10    | 11                 | 20    | 10               | 17    | 55           | 10    | 19      | 00       | Danish.           | Danish Government                | 139  | 0                                     | 23    | 0                     | 15.0         | St. Thomas.   | Ballast       | 2,810  | 7,634  | 2,558  |
| Quillota                   | 8                | 7     | 20             | 10    | 12                 | 30    | 10               | 19    | 03           | 10    | 21      | 30       | British.          | Pacific Steam Navigation Co.     | 361  | 4                                     | 46    | 2                     | 20.0         | New York.     | Guayaquil     | 2,810  | 7,634  | 2,558  |
| Somme <sup>2</sup>         | 10               | 11    | 25             | 11    | 6                  | 16    | 11               | 13    | 28           | 11    | 14      | 37       | American.         | United States Army               | 448  | 0                                     | 58    | 0                     | 27.0         | New York.     | General.      | 7,700  | 7,043  | 5,558  |
| Steel Scientist.           | 11               | 6     | 38             | 11    | 7                  | 30    | 11               | 18    | 19           | 11    | 19      | 20       | American.         | United States Steel Products Co. | 424  | 0                                     | 56    | 0                     | 25.0         | Galveston.    | General.      | 3,308  | 4,147  | 3,259  |
| Pleades                    | 11               | 10    | 39             | 11    | 11                 | 00    | 11               | 19    | 27           | 11    | 20      | 48       | American.         | Luckenbach Line.                 | 331  | 5                                     | 47    | 0                     | 22.0         | Mobile.       | General.      | 200    | 2,084  | 1,632  |
| Patuxent <sup>1</sup>      | 7                | 15    | 12             | 11    | 7                  | 50    | 11               | 10    | 37           |       |         |          | American.         | United States Navy               | 360  | 8                                     | 45    | 0                     | 17.0         | Bluefields.   | Logs.         | 377    | 3,666  | 2,577  |
| James Timpson              | 7                | 5     | 22             | 12    | 8                  | 10    | 12               | 16    | 31           |       |         |          | American.         | The Resolved Corporation         | 350  | 0                                     | 41    | 2                     | 23.8         | Cristobal.    | General.      | 15,000 | 11,043 | 8,130  |
| Palena                     | 7                | 18    | 45             | 12    | 11                 | 03    | 12               | 17    | 42           | 12    | 19      | 41       | Chilean.          | Chilean Steamship Line           | 500  | 3                                     | 68    | 0                     | 30.3         | Vancouver.    | Crude oil     | 6,807  | 9,055  | 6,822  |
| Vanolicite.                | 12               | 3     | 00             | 12    | 12                 | 40    | 12               | 21    | 12           | 12    | 22      | 35       | British.          | Imperial Oil Co.                 | 457  | 0                                     | 59    | 0                     | 25.0         | Mata Redondo. | General.      | 4,680  | 5,532  | 4,528  |
| Ruapehu                    | 13               | 12    | 33             | 13    | 6                  | 38    | 13               | 14    | 22           | 14    | 0       | 40       | British.          | New Zealand Shipping Co          | 457  | 0                                     | 59    | 0                     | 25.0         | London.       | General.      | 7,155  | 8,341  | 6,010  |
| Wm. A. McKenny.            | 13               | 1     | 10             | 13    | 7                  | 22    | 13               | 15    | 27           | 13    | 16      | 25       | American.         | Crowell & Thurlow                | 395  | 0                                     | 55    | 0                     | 24.0         | Savannah.     | General.      | 4,680  | 5,532  | 4,528  |
| Scotia Maiden <sup>1</sup> | 3                | 17    | 00             | 13    | 7                  | 05    | 13               | 17    | 13           | 18    | 03      | British. | Scotia Maiden Co. | 149                              | 0    | 33                                    | 0     | 12.8                  | Marcellus.   | Papete.       | 7,175         | 533    | 422    |        |
| Hatipara.                  | 13               | 6     | 50             | 13    | 9                  | 00    | 13               | 17    | 33           | 13    | 23      | 58       | British.          | British-India Steam Nav. Co.     | 445  | 0                                     | 58    | 0                     | 27.6         | Barry.        | Coal.         | 7,155  | 8,341  | 6,010  |
| Hofuku Maru.               | 13               | 2     | 26             | 13    | 11                 | 00    | 13               | 19    | 45           | 13    | 20      | 23       | Japanese.         | Kawasaki Dockyard Co.            | 385  | 0                                     | 51    | 0                     | 28.6         | Habana.       | Sugar.        | 7,244  | 5,907  | 4,398  |
| Dixie Arrow.               | 13               | 13    | 40             | 14    | 6                  | 35    | 14               | 14    | 26           | 14    | 15      | 50       | American.         | Standard Transportation Co.      | 468  | 3                                     | 62    | 7                     | 28.6         | New York.     | Petroleum.    | 11,200 | 9,744  | 6,973  |
| Chifuku Maru.              | 13               | 9     | 15             | 14    | 6                  | 50    | 14               | 15    | 25           | 14    | 16      | 30       | Japanese.         | Kokusai Kisen Kaisha             | 385  | 0                                     | 51    | 0                     | 28.0         | Manat.        | Sugar         | 7,203  | 5,919  | 4,400  |
| Arizonian.                 | 13               | 11    | 52             | 14    | 8                  | 10    | 14               | 16    | 14           | 14    | 17      | 20       | American.         | American-Hawaiian Line           | 470  | 0                                     | 57    | 0                     | 19.5         | New York.     | General.      | 1,655  | 9,158  | 6,970  |
| Manchester                 | 13               | 10    | 35             | 14    | 8                  | 25    | 14               | 17    | 18           | 14    | 18      | 25       | British.          | Manchester Lines, Ltd.           | 385  | 0                                     | 52    | 0                     | 22.7         | Manchester.   | Coal.         | 5,000  | 5,228  | 3,809  |
| Shuener.                   | 13               | 19    | 50             | 14    | 9                  | 05    | 14               | 18    | 20           | 15    | 15      | 22       | American.         | Matson Navigation Co. (S. B.).   | 517  | 0                                     | 72    | 2                     | 22.0         | Baltimore.    | General.      | 380    | 15,234 | 10,405 |
| Buckeye State.             | 13               | 23    | 50             | 14    | 9                  | 05    | 14               | 18    | 20           | 15    | 15      | 22       | American.         | Matson Navigation Co. (S. B.).   | 517  | 0                                     | 72    | 2                     | 22.0         | Baltimore.    | General.      | 2,100  | 9,262  | 6,853  |
| Harry Luckenbach.          | 14               | 6     | 40             | 14    | 9                  | 40    | 14               | 19    | 24           | 14    | 20      | 30       | American.         | Luckenbach Line.                 | 449  | 0                                     | 60    | 0                     | 21.3         | New York.     | General.      | 1,185  | 9,037  | 6,089  |
| Essequibo                  | 14               | 9     | 34             | 14    | 10                 | 20    | 14               | 20    | 45           | 14    | 22      | 00       | British.          | Pacific Steam Navigation Co.     | 450  | 0                                     | 57    | 0                     | 23.5         | New York.     | General.      | 2,437  | 5,129  | 3,251  |
| Princess                   | 14               | 6     | 32             | 14    | 10                 | 45    | 14               | 21    | 40           | 14    | 22      | 52       | American.         | Equitable Trust Co.              | 429  | 0                                     | 47    | 0                     | 25.8         | New Orleans.  | General.      | 2,447  | 5,929  | 3,251  |
| Endicott.                  | 14               | 1     | 30             | 14    | 12                 | 05    | 14               | 22    | 40           | 14    | 23      | 45       | American.         | Barber Steamship Line (S. B.).   | 402  | 6                                     | 54    | 8                     | 27.0         | New York.     | General.      | 8,319  | 6,929  | 5,182  |
| M. S. Dollar               | 14               | 6     | 35             | 14    | 12                 | 55    | 15               | 12    | 08           | 15    | 1       | 20       | British.          | Robert Dollar Line.              | 475  | 0                                     | 61    | 6                     | 27.0         | New York.     | General.      | 8,500  | 10,116 | 7,680  |
| Argonne <sup>2</sup>       | 14               | 12    | 23             | 14    | 13                 | 40    | 15               | 12    | 55           |       |         |          | American.         | United States Navy               | 436  | 9                                     | 58    | 2                     | 22.2         | Charleston.   | Naval stores. | 300    | 8,407  | 5,212  |
|                            |                  |       |                |       |                    |       |                  |       |              |       |         |          |                   |                                  |      | * Auxiliary schooner.                 |       |                       |              |               |               |        |        |        |
|                            |                  |       |                |       |                    |       |                  |       |              |       |         |          |                   |                                  |      | * Tug towing barges Nos. 463 and 472. |       |                       |              |               |               |        |        |        |
|                            |                  |       |                |       |                    |       |                  |       |              |       |         |          |                   |                                  |      | * Gunboat.                            |       |                       |              |               |               |        |        |        |
|                            |                  |       |                |       |                    |       |                  |       |              |       |         |          |                   |                                  |      | * Transport.                          |       |                       |              |               |               |        |        |        |

<sup>1</sup> Gunboat.<sup>2</sup> Transport.<sup>3</sup> Tug towing barges Nos. 463 and 472.<sup>4</sup> Auxiliary schooner.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                      | 8  | 4  | 00 | 8  | 7  | 56 | 8  | 14 | 52 | 8  | 14 | 52 | 8  | 14 | 52 | American... | Lockenbach Line.                 | 446.5 | 56.1 | 22.6 | Portland...      | Boston...        | General...        | 3,200 | 8,785  | 6,582 |
|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------------|----------------------------------|-------|------|------|------------------|------------------|-------------------|-------|--------|-------|
| Walter A. Luckenbach | 8  | 9  | 00 | 8  | 15 | 11 | 8  | 21 | 30 | 9  | 14 | 30 | 9  | 14 | 30 | British...  | Pacific Steam Navigation Co.     | 215.0 | 33.0 | 14.6 | Champerico...    | Cristobal...     | Coffee, wood, etc | 542   | 1,273  | 706   |
| South American       | 8  | 14 | 50 | 9  | 6  | 47 | 9  | 16 | 47 | 9  | 16 | 47 | 9  | 16 | 47 | British...  | South American Steamship Co.     | 251.0 | 43.0 | 20.9 | Valparaiso...    | New York...      |                   | 2,757 | 2,444  | 1,593 |
| Leise Maersk         | 9  | 2  | 30 | 9  | 7  | 46 | 9  | 16 | 47 | 9  | 16 | 47 | 9  | 16 | 47 | Danish...   | A. P. Muller & Co.               | 302.2 | 44.2 | 16.0 | Butaritari G.I.  | United King...   | Copra             | 2,218 | 3,219  | 2,166 |
| Urubamba             | 9  | 4  | 00 | 9  | 9  | 03 | 9  | 16 | 47 | 9  | 16 | 47 | 9  | 16 | 47 | Peruvian... | Peruvian Line                    | 381.2 | 48.1 | 20.0 | Molendo...       | Cristobal...     | General           | 2,052 | 4,803  | 2,051 |
| Malta Maru           | 9  | 18 | 00 | 9  | 7  | 49 | 9  | 16 | 47 | 9  | 16 | 47 | 9  | 16 | 47 | Japanese... | Kokusaiki Kisen Kaisha.          | 400.0 | 53.0 | 24.0 | Portland...      | Falmouth?        | Wheat             | 7,238 | 5,907  | 4,304 |
| Asheville            | 8  | 18 | 24 | 8  | 40 | 10 | 8  | 40 | 10 | 16 | 05 | 10 | 16 | 05 | 10 | American... | United States Government.        | 225.0 | 41.0 | 14.0 | Darien...        | Tampoco...       | Ballast           | 7,496 | 5,311  |       |
| Lompoc               | 4  | 16 | 30 | 9  | 20 | 10 | 9  | 20 | 10 | 16 | 45 | 10 | 16 | 45 | 10 | British...  | C. T. Bowring.                   | 435.0 | 55.9 | 20.0 | Fatal...         | London...        |                   | 5,900 | 5,493  | 3,967 |
| Cherry Branch        | 10 | 5  | 00 | 10 | 10 | 19 | 10 | 18 | 15 | 10 | 22 | 25 | 10 | 22 | 25 | British...  | Nautilus Steamship Co.           | 398.0 | 52.0 | 24.0 | Iquique...       | Cristobal...     | (*)               | 1,923 | 60     |       |
| Arabia               | 9  | 14 | 50 | 10 | 10 | 20 | 10 | 19 | 53 | 10 | 19 | 53 | 10 | 19 | 53 | Panaman...  | E. V. Paulsen.                   | 403.6 | 52.0 | 23.0 | Cocos Island...  | London...        | General           | 5,805 | 4,530  |       |
| Santa Rosal          | 11 | 12 | 58 | 11 | 14 | 06 | 11 | 21 | 50 | 12 | 16 | 16 | 12 | 16 | 16 | American... | United States Steel Products Co. | 105.0 | 52.6 | 23.0 | Vancouver...     |                  |                   |       |        |       |
| Andrea F.            | 11 | 13 | 35 | 11 | 14 | 48 | 11 | 22 | 35 | 11 | 22 | 35 | 11 | 22 | 35 | American... | Lockenbach Line.                 | 496.0 | 68.2 | 19.6 | Portland...      | New York...      | General, shingles | 4,000 | 11,487 | 8,732 |
| West Katon           | 11 | 19 | 44 | 12 | 6  | 38 | 12 | 14 | 00 | 13 | 9  | 14 | 12 | 14 | 00 | American... | Swayne & Hoyt (S. B.).           | 410.5 | 54.3 | 18.0 | San Francisco... | Buenos Aires...  | General           | 1,188 | 6,573  | 4,603 |
| City of Naples       | 11 | 23 | 00 | 12 | 7  | 42 | 12 | 15 | 22 | 12 | 16 | 53 | 12 | 16 | 53 | British...  | Hall Line, Ltd.                  | 418.3 | 53.3 | 24.0 | San Francisco... | Hull, England... | Lumber, general   | 7,900 | 6,683  | 4,882 |
| Mobile City          | 12 | 2  | 30 | 12 | 8  | 36 | 12 | 16 | 25 | 12 | 16 | 25 | 12 | 16 | 25 | American... | United States Steel Products Co. | 395.0 | 55.0 | 27.0 | Vancouver...     | Boston...        | General           | 7,200 | 7,330  | 5,241 |
| Karina Luckenbach    | 12 | 14 | 30 | 13 | 0  | 43 | 13 | 15 | 10 | 13 | 14 | 40 | 13 | 14 | 40 | American... | Lockenbach Line.                 | 446.0 | 56.1 | 23.0 | Seattle...       | New York...      | Lumber, general   | 3,750 | 8,508  | 6,179 |
| Ansaldo VIII.        | 11 | 15 | 00 | 13 | 7  | 50 | 13 | 15 | 15 | 16 | 6  | 18 | 13 | 15 | 16 | Italian...  | Italian Line                     | 378.5 | 51.5 | 23.0 | Valparaiso...    | Genoa...         | General           | 4,630 | 5,521  | 3,399 |
| Saint Jean           | 12 | 21 | 00 | 13 | 8  | 45 | 13 | 17 | 30 | 14 | 11 | 25 | 13 | 17 | 30 | French...   | French Line                      | 398.0 | 50.3 | 23.0 | Valparaiso...    | Bordeaux...      | General           | 6,127 | 5,849  | 4,081 |
| Bahoa                | 13 | 6  | 00 | 13 | 9  | 01 | 13 | 17 | 10 |    |    |    |    |    |    | American... | Colombian Maritime Co.           | 190.0 | 29.1 | 13.3 | Buenaventura...  | Cristobal...     | Coffee, hides     | 405   |        |       |
| Minnesota            | 14 | 9  | 45 | 14 | 10 | 59 | 14 | 18 | 06 | 14 | 18 | 06 | 14 | 18 | 06 | American... | United American Lines.           | 407.7 | 53.7 | 28.0 | Seattle...       | Liverpool...     | General           | 7,500 | 7,150  | 4,913 |

Cruiser.

Motor ship.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

Nitrate, ties, ore, and borax.

## PORT OF CRISTOBAL.

## ARRIVALS.

## DEPARTURES.

| Date.   | Vessel.           | Line.                           | From—                   | Date.   | Vessel.           | Line.                           | For—                                |
|---------|-------------------|---------------------------------|-------------------------|---------|-------------------|---------------------------------|-------------------------------------|
| Jan. 8  | Abangarez         | United Fruit Co.                | New Orleans via Habana. | Jan. 8  | Van Rensselaer    | Royal Netherlands W. I. Mail    | Puerto Colombia.                    |
| Jan. 8  | Van Rensselaer    | Royal Netherlands W. I. Mail    | Port Limon.             | Jan. 12 | Teviot            | Royal Mail Steam Packet Co      | Puerto Colombia.                    |
| Jan. 9  | Parimania         | United Fruit Co.                | Habana.                 | Jan. 12 | Turrialba         | United Fruit Co                 | New York via Kingston.              |
| Jan. 11 | P. de Sistrutegui | Spanish Line                    | New York via Kingston.  | Jan. 12 | Trivives          | United Fruit Co                 | New York via Colombia and Kingston. |
| Jan. 11 | Trivives          | United Fruit Co.                | Colombian ports.        | Jan. 12 | Abangarez         | United Fruit Co                 | New Orleans via Bocas del Toro.     |
| Jan. 11 | Lake Elmont       | Clyde Line (S. B.)              | High seas.              | Jan. 13 | P. de Sistrutegui | Spanish Line                    | Puerto Colombia.                    |
| Jan. 13 | Cristobal         | Panama Railroad Steamship Line. | Norfolk.                | Jan. 13 | Panama            | Panama Railroad Steamship Line. | New York via Haiti.                 |
| Jan. 13 | Calamates         | United Fruit Co.                | New York via Habana.    | Jan. 13 | Owl               | United States Navy              | Hampton Roads.                      |
| Jan. 13 | Caribbean         | Panama Railroad Steamship Line. | Cartagena.              | Jan. 13 | San Benito        | United Fruit Co                 | Boston via Kingston.                |
| Jan. 13 | Colon             | Panama Railroad Steamship Line. | New York via Haiti.     | Jan. 14 | Calamates         | United Fruit Co                 | New York via Port Limon and Habana. |
| Jan. 14 | San Benito        | United Fruit Co.                | Boston via Port Limon.  | Jan. 14 |                   |                                 |                                     |

## PORT OF BALBOA.

Tug.

| Date.   | Vessel.   | Line.                 | From—       | Date. | Vessel. | Line. | For— |
|---------|-----------|-----------------------|-------------|-------|---------|-------|------|
| Jan. 14 | Anyo Maru | Toyotsu Kisen Kaisha. | Valparaiso. | None. |         |       |      |

\* Other than ships passing through the Canal.



## Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending January 14, 1922.

| Name of vessel.      | Line or charterer.               | Arrived.        | Departed.       | Cargo—     |        |
|----------------------|----------------------------------|-----------------|-----------------|------------|--------|
|                      |                                  |                 |                 | Discharged | Laded. |
|                      |                                  |                 |                 | Tons.      | Tons.  |
| Ecuador.....         | Pacific Mail Steamship Co.....   | January 2.....  | January 2.....  | 7          | 14     |
| Andalusia.....       | Svenska Lloyd.....               | January 2.....  | January 2.....  | 5          |        |
| Chateau Thierry..... | U. S. Government.....            | January 3.....  | January 4.....  | 359        |        |
| Laura C. Hall.....   | Pacific Metals Corporation.....  | January 3.....  | January 3.....  | 11         |        |
| San Juan.....        | Pacific Mail Steamship Co.....   | January 4.....  | January 4.....  |            | 26     |
| Seiyo Maru.....      | Toyo Kisen Kaisha.....           | January 5.....  | January 6.....  | 626        |        |
| Laura C. Hall.....   | Pacific Metals Corporation.....  | January 6.....  | January 6.....  |            | 87     |
| Jamaica.....         | Pacific Steam Navigation Co..... | January 6.....  | January 6.....  |            | 32     |
| Acajutla.....        | Pacific Steam Navigation Co..... | January 8.....  | January 8.....  | 76         |        |
| Ansaldo VIII.....    | Italian Line.....                | January 11..... | January 12..... |            | 121    |
| Anyo Maru.....       | Toyo Kisen Kaisha.....           | January 14..... | January 15..... | 56         | 25     |

<sup>1</sup> Transport.

### Official Circulars.

#### Acting Governor.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., January 16, 1922.

To all concerned—Effective January 17, 1922, and during my absence from the Isthmus, Col. M. L. Walker, U. S. A., Engineer of Maintenance, will be Acting Governor.

JAY J. MORROW,  
Governor.

#### Duties of President, Panama Railroad Company.

PANAMA RAILROAD COMPANY,  
OFFICE OF THE PRESIDENT,

BALBOA HEIGHTS, C. Z., January 16, 1922.

To all concerned—Effective January 17, 1922, and during my absence from the Isthmus, Col. M. L. Walker, U. S. A., 2d Vice President, will perform such duties of the President as relate to the operations of the company on the Isthmus.

JAY J. MORROW,  
President, Panama Railroad Company.

#### Acting Chief Quartermaster.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., January 12, 1922.

To all concerned—Effective January 16, 1922, and during the absence on leave of Mr. R. K. Morris, Mr. Roy R. Watson will act as Chief Quartermaster.

JAY J. MORROW,  
Governor.

#### Vehicle Traffic Regulations—One-way Streets.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., January 5, 1922.

CIRCULAR NO. 717-4:

1. The regulations covering traffic approach and exit to and from Pier 18, Balboa, are amended to read as follows:

"Dock 17 from Dock 16 to Pier 18 entrance. Pier 18 from Pier entrance to Balboa Road."

2. That portion of Cash Alley, Cristobal District, extending from the junction of "D" Street

and Broadway to 14th Street, is hereby made a one-way street for northbound traffic.

3. Section 4 of Circular No. 717-3, dated May 18, 1921, is amended accordingly.

JAY J. MORROW,  
Governor.

#### Invitation for Proposals to Furnish Native Logs to The Panama Canal.

Sealed bids will be received in the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., until 10.30 a. m. Wednesday, February 15, 1922, and then opened, for furnishing The Panama Canal 300,000 feet B. M., more or less, native logs, during a period of one year from date of contract, in accordance with form of agreement, copies of which may be had upon application to the office of the Chief Quartermaster.

Bids must be inclosed in sealed envelope, addressed to The Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., and marked "Proposal for furnishing native logs, to be opened February 15, 1922."

The Panama Canal reserves the right to reject any or all bids.

The successful bidder will be given the first option to purchase, if desired, the launch *Mecca*, and other logging equipment formerly used by The Panama Canal, at reasonable appraised prices. This launch was built for logging purposes and is particularly suitable for same. Launch may be inspected at Monte Lirio.

#### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

#### Sale of Lumber.

"The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

#### Typewriters For Sale.

The Supply Department has on sale a number of Underwood typewriters, second hand, models 4 and 5. Prices range from \$20 to \$35. Inspection can be made by applying to Storekeeper, S. D., Administration Building, Balboa Heights.

#### Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.  
PUBLISHED WEEKLY.

Subscription rates, domestic, \$1.50 per year; foreign, \$2.00; address  
The Panama Canal Record, Balboa Heights, Canal Zone, or  
The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office  
at Cristobal, C. Z., under the Act of March 3, 1879.



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Volume XV. Balboa Heights, C. Z., January 25, 1922. No. 24.

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## Growth of the Lumber Trade.

The most conspicuous feature of the traffic history of the Panama Canal during the calendar year 1921 was the rapid expansion of the trade between Pacific North America, especially the western United States, and the Atlantic coast of North America and Europe. A number of new steamship lines began during the year to compete for this west coast business, and the volume of cargo handled has increased from month to month. Lumber has contributed no small share to the total.

In 1920 lumber shipments through the Canal from Pacific to Atlantic totaled 205,172 tons. In 1921 this total increased to 448,087 tons, a growth of 118 per cent. The United States furnished the bulk of these shipments, 387,993 tons, and western Canada 57,429 tons. There were small shipments of lumber from Central and South America, Australasia, and the Far East.

The countries of destination were: East coast of the United States, 346,249 tons; British Isles, 60,048 tons; other Europe, 11,895 tons; with lesser tonnage to the east coast of Canada, the West Indies, and the east coast of Mexico.

The shipments of lumber to the British Isles and Europe were heaviest during the first 6 months of the calendar year, and declined very noticeably thereafter. Shipments to the east coast of the United States, however, show a steady increase. These coast-to-coast shipments of lumber that was formerly handled by rail were stimulated by the increase of railroad freight rates.

The trade was handicapped at first by the lack of adequate terminals equipped to handle lumber on the Atlantic seaboard, but it is reported that this has been remedied.

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## Water Route for Pacific Canned Fish.

*World Trade*, a San Francisco publication, refers in a recent issue to the increasing use of the water route for the shipment of Columbia River salmon. It says:

Salmon movements have been the shipping feature of the year on the Columbia, and have taken some of the most startling turns in all the marine developments of the Pacific coast. In June, 1920, the salmon industry was in a precarious condition. This continued until about March, 1921, when the shipment of salmon by water was commenced in earnest. The large number of regular, rapid, and direct steamship lines which the port of Astoria terminals had attracted provided excellent means for the dispatch of salmon to all parts of the world. Hitherto practically all of the salmon pack of the Columbia River had been shipped overland, but the storage facilities, handling equipment, and transportation lines at the Astoria terminals, coupled with their closeness to the sea, started a movement for the marine shipment of the salmon which acquired such momentum that the industry was saved from the disaster that threatened it. The quantities of canned salmon which had glutted the market have now been swept away. This movement, combined with a light pack in 1921, has removed the surplus, improved the price, and insured the steamship lines that salmon will continue to provide them with valuable cargoes.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, January 21, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.             | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line. | Length. | Beam. | Salt water draft. | From— | For— | Cargo.    |        | Panama Canal tonnage. |       |
|-------------------|------------------|-------|----------------|-------|--------------------|-------|--------------|-------|---------|-------|-------------------|-------|------|-----------|--------|-----------------------|-------|
|                   | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |       |         |       |                   |       |      | Nature.   | Tons.  | Gross.                | Net.  |
| Panama Maru       | 14               | 12    | 23             | 15    | 6                  | 23    | 15           | 14    | 58      | 15    | 16                | 39    | 23   | 6         | 135    | 6,090                 | 4,280 |
| Cold Harbor       | 14               | 14    | 23             | 15    | 7                  | 12    | 15           | 16    | 50      | 15    | 17                | 52    | 18   | 0         | 2,000  | 6,131                 | 4,418 |
| Unibamba          | 9                | 16    | 28             | 15    | 8                  | 15    | 15           | 17    | 50      | 15    | 19                | 00    |      | General   | 297    | 4,803                 | 2,951 |
| Gen. H. F. Hodges | 12               | 3     | 10             | 15    | 8                  | 45    | 15           | 18    | 01      | 15    | 19                | 06    |      | General   | 302    | 3,013                 | 1,574 |
| Antiochia         | 13               | 18    | 00             | 15    | 8                  | 47    | 15           | 19    | 10      | 17    | 9                 | 12    |      | General   | 743    | 4,219                 | 3,003 |
| Bollena           | 13               | 23    | 20             | 15    | 10                 | 15    | 19           | 21    | 15      | 20    | 15                | 20    |      | General   | 4,193  | 5,816                 | 4,113 |
| Bolton Castle     | 15               | 6     | 23             | 15    | 12                 | 30    | 15           | 20    | 40      | 15    | 22                | 35    |      | General   | 7,027  | 7,489                 | 4,869 |
| Amur Maru         | 15               | 18    | 32             | 16    | 6                  | 28    | 16           | 15    | 36      | 16    | 16                | 50    |      | General   | 8,311  | 7,901                 | 5,029 |
| Leirum            | 15               | 18    | 37             | 16    | 7                  | 18    | 16           | 18    | 50      | 16    | 19                | 55    |      | General   | 5,368  | 10,050                | 6,834 |
| Nanerie           | 15               | 12    | 55             | 16    | 8                  | 35    | 16           | 21    | 06      | 16    | 22                | 40    |      | General   | 6,359  | 6,369                 | 4,837 |
| Haarlem           | 15               | 1     | 10             | 16    | 9                  | 30    | 16           | 15    | 45      | 16    | 22                | 50    |      | General   | 684    | 4,758                 | 3,060 |
| Balboa            | 13               | 17    | 10             | 16    | 10                 | 00    | 16           | 21    | 50      | 16    | 22                | 50    |      | Ballast   | 1,021  | 1,741                 | 350   |
| Acajula           | 8                | 21    | 30             | 16    | 10                 | 25    | 16           | 21    | 50      | 16    | 23                | 00    |      | General   | 1,879  | 5,786                 | 6,074 |
| Magellan          | 16               | 9     | 50             | 17    | 6                  | 10    | 17           | 13    | 51      | 17    | 14                | 55    |      | General   | 3,423  | 7,026                 | 5,323 |
| Scotia            | 17               | 7     | 55             | 17    | 8                  | 10    | 17           | 13    | 13      | 17    | 18                | 22    |      | General   | 9,152  | 47,059                | 5,043 |
| City of Lincoln   | 17               | 17    | 11             | 18    | 6                  | 25    | 18           | 14    | 31      | 18    | 15                | 35    |      | Crude oil | 4,200  | 4,995                 | 3,622 |
| San Joaquin       | 17               | 17    | 11             | 18    | 7                  | 25    | 18           | 15    | 55      | 18    | 20                | 18    |      | Sugar     | 557    | 1,213                 | 692   |
| Coristan          | 18               | 4     | 00             | 18    | 11                 | 05    | 18           | 16    | 32      | 18    | 20                | 00    |      | General   | 466    | 5,331                 | 3,773 |
| Salvador          | 24               | 18    | 05             | 18    | 11                 | 05    | 18           | 16    | 32      | 18    | 20                | 00    |      | General   | 6,050  | 5,688                 | 3,930 |
| Bologna           | 16               | 8     | 30             | 19    | 6                  | 15    | 19           | 15    | 43      | 19    | 16                | 55    |      | General   | 800    | 6,394                 | 4,515 |
| Tosca             | 18               | 19    | 10             | 19    | 7                  | 25    | 19           | 15    | 05      | 20    | 0                 | 10    |      | General   | 10,519 | 9,465                 | 7,349 |
| Sonora            | 18               | 11    | 05             | 19    | 8                  | 54    | 19           | 19    | 01      | 19    | 20                | 25    |      | General   | 3,000  | 8,552                 | 6,236 |
| City of Oran      | 19               | 1     | 00             | 19    | 12                 | 25    | 19           | 20    | 12      | 19    | 21                | 13    |      | General   | 3,000  | 8,552                 | 6,236 |
| K. I. Luckenbach  | 19               | 12    | 00             | 19    | 13                 | 18    | 19           | 21    | 13      | 19    | 22                | 20    |      | General   | 3,000  | 8,552                 | 6,236 |
| Invader           | 19               | 12    | 00             | 19    | 13                 | 18    | 19           | 21    | 13      | 19    | 22                | 20    |      | General   | 3,000  | 8,552                 | 6,236 |
| Cayuco 1093       | 19               | 9     | 26             | 19    | 9                  | 26    | 19           | 9     | 26      | 19    | 9                 | 26    |      | Ballast   | 1,737  | 7,112                 | 4,896 |
| Ochoabo           | 20               | 6     | 33             | 20    | 6                  | 55    | 20           | 15    | 17      | 20    | 16                | 18    |      | Ballast   | 6      | 132                   | 72    |
| Laura C. Hall     | 19               | 20    | 25             | 20    | 10                 | 05    | 20           | 17    | 40      | 22    | 20                | 45    |      | General   | 1,737  | 7,112                 | 4,896 |
| Cootie            | 14               | 7     | 10             | 14    | 7                  | 10    | 14           | 11    | 12      | 14    | 11                | 12    |      | General   | 6      | 132                   | 72    |
| Delco             | 20               | 22    | 00             | 21    | 6                  | 25    | 21           | 14    | 14      | 21    | 17                | 20    |      | Ballast   | 4,684  | 3,795                 | 2,660 |
| Comerie           | 20               | 22    | 00             | 21    | 6                  | 25    | 21           | 14    | 14      | 21    | 17                | 20    |      | General   | 8,624  | 7,186                 | 5,335 |

\* Motor ship.

\* Launch.

\* Motor schooner.





### Rates of Tolls at Panama and Suez Canals.

Tolls for the passage of vessels through the Panama Canal are levied in accordance with the following:

|                                                                                                                                                                                                        |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity.....                                                                                | \$1.20 |
| Vessels in ballast without passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity.....                                                                               | .72    |
| Tolls may not exceed the equivalent of \$1.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of \$0.75 per net registered ton.            |        |
| Naval vessels, other than transports, colliers, hospital ships, and supply ships, per displacement ton.....                                                                                            | .50    |
| Army and Navy transports, colliers, hospital ships, and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels, per net ton..... | 1.20   |

To afford a comparison with the rates at the Suez Canal, the American Consul at Port Said obtained the following information from the Suez Canal Administration and forwarded it under date of November 1:

The Suez Canal tolls are actually payable in Egyptian currency: L. E.<sup>1</sup> equals P. T.<sup>2</sup> 100 or \$4.9431 prewar value; <sup>3</sup> £1 equals P. T. 97½ and, as the English pound is the standard coin currency of Egypt, it does not affect the rates charged which are as follows:

Frs. 8 per ton for ships carrying cargo.

Frs. 5.50 per ton for ships in ballast.

#### Reduced

Fr. 1 equals to P. T.<sup>2</sup> 3.85757.

Frs. 5.50 equals to 21.21664.

Frs. 8 equals to 30.86056.

In taking P. T.<sup>2</sup> 25 as an average rate for the U. S. dollar the cost would be:

For ships in ballast, \$0.8487.

For ships carrying cargo, \$1.2344.

<sup>1</sup> Egyptian pound. <sup>2</sup> Piasters. <sup>3</sup> Pound sterling.

### Supplement No. 9 to Tariff No. 5.—Trip Through Gaillard Cut.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., January 16, 1922.

#### ITEM 6.—LAUNCHES.

6. For steam yacht *Gold Star*—rate for individual tickets for trip through Gaillard Cut (minimum number of tickets required to be sold not less than 40. No refund to be made for unused tickets)..... \$2.00

JAY J. MORROW,

Governor, The Panama Canal.

President, Panama Railroad Company.

### Tourist Parties.

The first large tourist parties to visit the Isthmus during the current dry season arrived last week, one party on the *Calamares* of the United Fruit Company and the other, conducted by the American Express Company, on the Matson Line steamer *Buckeye State*. Smaller tours had arrived in December and early in January.

Twenty-two more tours have been definitely scheduled for the time up to the middle of April. They range from parties of a dozen up to 300 or 400 on a vessel. The tours are being managed by the United Fruit Company, the American Express Company, the Raymond Whitcomb Company, the Canadian Pacific Railway, and the White Star Line. Smaller parties are being sent by other travel companies.

The Matson Line and the Pacific Mail Steamship Company, operating passenger ships through the Canal in the United States coastwise trade, are featuring the interest of the route to travelers.



### The "Advance" to Enter Colombian Service.

The steamship *Advance* of the Panama Railroad Steamship Line will take the place of the *Caribbean* in the company's East Colombian service, calling at Puerto Colombia and Cartagena, beginning with the voyage from Cristobal on February 4. The *Advance* was retired from the New York service the early part of December, 1921, and laid up in Gatun Lake, pending the completion of shipment of cattle on the *Caribbean*, which is especially fitted for that service. Cattle shipments were completed with the last voyage of the *Caribbean*, and the *Advance* has been taken to Cristobal shops for conditioning in preparation for her new service. No cattle are to be carried on her for the present.

An inquiry was recently received from Ecuador as to the possibility of making a shipment of 500 head of cattle from that country to the Isthmus on the *Caribbean*, but no more cattle are to be purchased by the Supply Department from outside sources at this time.

### Added Facilities for Sightseeing at the Panama Canal.

As an adjunct to sightseeing at the Canal, the steam launch *Gold Star* is carrying passengers between Gatun and Pedro Miguel, passing through Gatun Lake and Gaillard Cut, at a rate of \$4 per passenger, provided not less than 20 tickets are sold for the trip. As many as 100 passengers can be taken at one time. The launch makes about 15 knots in open water, and the trip one way takes approximately 2½ hours. Passage from Cristobal and Colon to Gatun, and between Pedro Miguel and Balboa or Panama, is made either by the Panama Railroad or in public automobiles over concrete and asphalt roads.

For larger parties special trains may be hired on the Panama Railroad, for transit direct or in connection with launch trips.

The Panama Canal has issued a mimeographed summary, "Office Information for Tourist Companies and Passenger Agents," giving details of the accommodations for visitors to the Isthmus. Copies will be furnished on request.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending January 21, 1922.

| Name of vessel. | Line or charterer.           | Arrived.   | Departed.  | Cargo—     |        |
|-----------------|------------------------------|------------|------------|------------|--------|
|                 |                              |            |            | Discharged | Laded. |
|                 |                              |            |            | Tons.      | Tons.  |
| Antiochia       | Hamburg-American Line        | January 15 | January 17 | 451        | 1      |
| Acajutla        | Pacific Steam Navigation Co. | January 16 | January 16 |            | 4      |
| Newport         | Pacific Mail Steamship Co.   | January 17 | January 17 | 3          |        |
| Pacifico        | Arthur Matheson              | January 18 | January 18 | 12         |        |
| Jephtha         | United States Shipping Board | January 18 | January 18 |            | 50     |
| Salvador        | Pacific Steam Navigation Co. | January 18 | January 18 |            | 36     |
| Bologna         | La Veloce Line               | January 19 | January 19 | 69         |        |
| Laura C. Hall   | Pacific Metals Corporation   | January 19 | January 19 | 14         |        |
| Delft           | Royal Netherlands W. I. Mail | January 19 | January 19 | 134        |        |
| America         | Santiago Sajel               | January 19 |            | 36         |        |
| Venezuela       | Pacific Mail Steamship Co.   | January 20 | January 21 | 16         | 134    |
| Laura C. Hall   | Pacific Metals Corporation   | January 20 | January 20 |            | 79     |
| Manavi          | Pacific Steam Navigation Co. | January 20 | January 20 | 12         |        |

### Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending January 21, 1922.

| Name of vessel.   | Line or charterer.             | Arrived.    | Departed.   | Cargo—     |        |
|-------------------|--------------------------------|-------------|-------------|------------|--------|
|                   |                                |             |             | Discharged | Laded. |
|                   |                                |             |             | Tons.      | Tons.  |
| Van Rensselaer    | Royal Netherlands W. I. Mail   | January 8.  | January 8.  | 24         | 558    |
| Mineola           | W. R. Grace & Co.              | January 8.  | January 8.  | 278        | (*)    |
| Quillota          | Pacific Steam Navigation Co.   | January 8.  | January 10. | 241        | 175    |
| Acajutla          | Pacific Steam Navigation Co.   | January 8.  | January 8.  | 542        |        |
| Sarpfos           | Caribbean Steamship Co.        | January 8.  | January 10. | 182        | 5      |
| Abangarez         | United Fruit Co.               | January 8.  | January 8.  | (*)        | 491    |
| Parismina         | United Fruit Co.               | January 9.  | January 12. | 753        |        |
| Urubamba          | Peruvian Line                  | January 9.  | January 9.  | 2,040      |        |
| Tivities          | United Fruit Co.               | January 11. | January 12. | 66         | 143    |
| Turrialba         | United Fruit Co.               | January 11. | January 12. | 5          | 4      |
| Teviot            | Pacific Steam Navigation Co.   |             | January 12. |            | 491    |
| Palena            | Chilean Line                   |             | January 12. |            | 387    |
| P. de Satrustegui | Spanish Steamship Line         | January 11. | January 13. | 670        | 4,004  |
| Gen. H. F. Hodges | Panama Railroad Steamship Line | January 12. |             | 791        |        |
| Essequibo         | Pacific Steam Navigation Co.   | January 13. | January 14. | 171        | (*)    |
| Antiochia         | Hamburg-American Line          | January 13. |             | 241        |        |
| Balboa            | Colombian Maritime Co.         | January 13. |             | 405        |        |
| Calamares         | United Fruit Co.               | January 13. | January 14. | 118        | 82     |
| Cristobal         | Panama Railroad Steamship Line | January 13. |             | 9,625½     |        |
| Colon             | Panama Railroad Steamship Line | January 13. |             | 1,516      |        |
| Caribbean         | Panama Railroad Steamship Line | January 13. |             | 335        |        |
| Ballena           | Pacific Steam Navigation Co.   | January 13. |             | 6          |        |
| San Benito        | United Fruit Co.               | January 14. | January 14. | 50         | 83     |
| Ballena           | Pacific Steam Navigation Co.   |             | January 15. |            | 16     |
| Caribbean         | Panama Railroad Steamship Line |             | January 15. |            | 61     |
| Gen. H. F. Hodges | Panama Railroad Steamship Line |             | January 15. |            | 397    |
| Parismina         | United Fruit Co.               |             | January 15. |            | 237    |
| Urubamba          | Peruvian Line                  |             | January 16. |            | 298    |
| Acajutla          | Pacific Steam Navigation Co.   |             | January 16. |            | 1,034  |
| Haarlem           | Royal Netherlands W. I. Mail   | January 15. | January 16. | 177        | (*)    |
| Magellan          | Pacific Steam Navigation Co.   | January 16. | January 17. | 2          | 106    |
| Crijnsen          | Royal Netherlands W. I. Mail   | January 16. | January 17. | 123        | (*)    |
| Salvador          | Pacific Steam Navigation Co.   |             | January 18. |            | 575    |
| Cartago           | United Fruit Co.               | January 16. | January 19. | 2,104      | 213    |
| Eiger             | Caribbean Steamship Line       | January 17. | January 18. | 54         | (*)    |
| Jamaica           | Pacific Steam Navigation Co.   | January 17. | January 21. | 51         | (*)    |
| San Blas          | United Fruit Co.               | January 17. | January 18. | 17         | 77     |
| Nubian            | Leyland Line                   | January 17. | January 18. | 695        | 497    |
| Sonora            | French Line                    | January 18. | January 19. | 20         | (*)    |
| Newport           | Pacific Mail Steamship Co.     | January 18. |             | 656        |        |
| Laura C. Hall     | Pacific Metals Corporation     | January 19. | January 20. | 136        | 9      |
| Manavi            | Pacific Steam Navigation Co.   | January 20. |             | 391        |        |
| Puerto Rico       | French Line                    | January 20. |             | 75         |        |
| Colon             | Panama Railroad Steamship Line |             | January 20. |            | 1,500  |
| Aysen             | Chilean Line                   | January 20. |             | 317        |        |
| Allianca          | Panama Railroad Steamship Line | January 20. |             | 1,552      |        |
| Pastores          | United Fruit Co.               | January 20. | January 21. | 164        | 287    |
| Agwisun           | Ward Line                      | January 20. |             | 10,000     |        |
| Venezuela         | Pacific Mail Steamship Co.     | January 21. |             | 439        |        |
| Crijnsen          | Royal Netherlands W. I. Mail   | January 21. |             | 17         |        |
| Coronado          | Elder & Fyffes, Ltd.           | January 21. | January 21. | 14         | 125    |
| Barima            | Pacific Steam Navigation Co.   | January 21. |             | 315        |        |

\* No cargo discharged.

\* No cargo laded.

\* Pounds.

## Bunker Coal at San Diego and Los Angeles.

Bunker coal is offered at San Diego and Los Angeles at \$13.70 per gross ton of 2,240 pounds, f. o. b. vessel alongside dock; trimming extra at actual cost of labor and accident insurance, plus 10 per cent. These prices are quoted by the Spreckels Brothers Commercial Company, effective January 10, 1922, subject to change without notice.

## Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended January 21:

Motorship *James Timpson*, dock and undock; stage, clean and paint bottom; repair dynamo engine; test tail shaft for alignment; remove water end of circulating pump and install new end; install flanged union in discharge pipe; renew 1 section of 3-inch exhaust line back of boiler; relocate bottom blow line; manufacture

topping lift band; remetal all crank-shaft bearings and caps on port and starboard main engines; renew 8 wrist-pin bushings; true up wrist pins; remetal and machine crank-pin brasses; refasten boilers; renew portion of bottom casing on boiler fronts, turbine tubes; roll tube sheet caps; test boiler; repair damaged keel; steamship *Delft*, remove strainer, main injection; install hard patch on shell; repair sea valve and circulating pump; tug *Favorite*, discharge a portion of bunker coal; remove and replace lifeboat; barge *No. 134*, straighten coaming; redrive or renew bad order rivets above water line.

#### Deceased and Insane Employees.

The estates of the following deceased or insane employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

##### DECEASED.

| Name.                                 | Check No. | Native of—         | Isthmian residence. | Employed by—           | Date of death.     |
|---------------------------------------|-----------|--------------------|---------------------|------------------------|--------------------|
| Marcus Bishop.....                    | 44803     | Barbados.....      | Colon.....          | Panama Railroad Co...  | January 14, 1922.  |
| Edward Major.....                     | 26851     | Bahamas.....       | Colon.....          | Panama Railroad Co...  | January 4, 1922.   |
| Charles Reid.....                     | 22936     | Jamaica.....       | Cristobal.....      | Panama Railroad Co...  | January 13, 1922.  |
| Daniel Wright.....                    | 48213     | Jamaica.....       | Cristobal.....      | Panama Railroad Co...  | January 10, 1922.  |
| Tertius (Tarsus) Walters.....         | 59663     | Jamaica.....       | Colon.....          | Panama Railroad Co...  | January 8, 1922.   |
| Guy A. Lord.....                      |           | Grenada.....       | Panama.....         | Health Department..... | January 13, 1922.  |
| Alfred C. Greenwald.....              | 1383      | United States..... | Gatun.....          | The Panama Canal.....  | November 19, 1921. |
| Violet Olivia Clayton.....            | 60354     | Jamaica.....       | Panama.....         | The Panama Canal.....  | December 26, 1921. |
| James Wilson, <i>alias</i> Moore..... | 37018     | Barbados.....      | Panama.....         | The Panama Canal.....  | December 16, 1921. |
| Robert Watson.....                    | 21592     | Trinidad.....      | Colon.....          | The Panama Canal.....  | November 19, 1921. |

##### INSANE.

| Name.                 | Check No. | Native of—        | Isthmian residence. | Employed by—          | Date of commitment. |
|-----------------------|-----------|-------------------|---------------------|-----------------------|---------------------|
| Patrick F. Walsh..... | 4146      | United States.... | Cristobal.....      | Panama Railroad Co... | December 24, 1921.  |

#### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective January 1, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.29 |
| Brass, sheet, average.....                                        | Lb.            | .40    |
| Bronze, Tobin, average.....                                       | Lb.            | .31    |
| Gasoline, motor grade.....                                        | Gal.           | .40    |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .175   |
| Oakum, Navy, unspun.....                                          | Lb.            | .175   |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Pbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .51    |
| Oil, burning.....                                                 | Gal.           | 1.25   |
| Oil, engine, gas, light, in barrels.....                          | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .675   |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .65    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | 1.125  |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | 1.04   |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .55    |
| Oil, kerosene, in drums.....                                      | Gal.           | .20    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .99    |
| Paint, lead, white, dry.....                                      | Lb.            | .14    |
| Paint, lead, white, in oil.....                                   | Lb.            | .16    |
| Paint, zinc, white, dry.....                                      | Lb.            | .20    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .20    |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .10    |
| Soda, ash.....                                                    | Lb.            | .04    |
| Waste, cotton, colored.....                                       | Lb.            | .175   |
| Waste, cotton, white.....                                         | Lb.            | .20    |



### Invitation for Proposals to Furnish Native Logs to The Panama Canal.

Sealed bids will be received in the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., until 10.30 a. m. Wednesday, February 15, 1922, and then opened, for furnishing The Panama Canal 300,000 feet B. M., more or less, native logs, during a period of one year from date of contract, in accordance with form of agreement, copies of which may be had upon application to the office of the Chief Quartermaster.

Bids must be inclosed in sealed envelope, addressed to The Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., and marked "Proposal for furnishing native logs, to be opened February 15, 1922."

The Panama Canal reserves the right to reject any or all bids.

The successful bidder will be given the first option to purchase, if desired, the launch *Mecca*, and other logging equipment formerly used by The Panama Canal, at reasonable appraised prices. This launch was built for logging purposes and is particularly suitable for same. Launch may be inspected at Monte Lirio.

### Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line), Pacific Mail Steamship Company, and Matson Line. The two last named charge \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

### Current Net Prices on Coal, Fuel Oil, and Diesel Oil.

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or less than 50 tons, the price is \$15 per ton at Cristobal, \$18 at Balboa.

Crude-fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

### MOVEMENTS OF OCEAN VESSELS—Continued from page 307.

PORT OF CRISTOBAL—continued.

| *ARRIVALS.      |                    |                                 |                         | *DEPARTURES. |           |                                 |                           |
|-----------------|--------------------|---------------------------------|-------------------------|--------------|-----------|---------------------------------|---------------------------|
| Date.           | Vessel.            | Line.                           | From—                   | Date.        | Vessel.   | Line.                           | For—                      |
| Jan. 20         | Agwisun            | Ward Line                       | Tampico.                | Jan. 19      | Carlago   | United Fruit Co.                | New Orleans via wayports. |
| Jan. 20         | Puerto Rico        | French Line                     | San Nazaire and waypts. | Jan. 20      | Colon     | Panama Railroad Steamship Line  | New York via Haiti.       |
| Jan. 20         | Alliance           | Panama Railroad Steamship Line  | New York via Haiti.     | Jan. 21      | Pastores  | United Fruit Co.                | New York via wayports.    |
| Jan. 21         | Coronado           | Elders & Ryffes, Ltd.           | Port Limon.             | Jan. 21      | Coronado  | Elders & Ryffes, Ltd.           | Kingston.                 |
| Jan. 21         | Crinssen           | Royal Netherlands W. I. Mail    | Port Limon.             |              |           |                                 |                           |
| Jan. 21         | Irene S. Wilkinson | Howard Lumber Co.               | High seas.              |              |           |                                 |                           |
| PORT OF BALBOA. |                    |                                 |                         |              |           |                                 |                           |
| Jan. 17         | Jeppha             | General Steamship Corp. (S. B.) | San Francisco.          | Jan. 15      | Anyo Maru | Toyo Kisen Kaisha               | Hongkong.                 |
| Jan. 17         | Pacifico           | John Leale                      | Valparaiso.             | Jan. 18      | Jeppha    | General Steamship Corp. (S. B.) | San Antonio.              |
| Jan. 19         | America            | Santiago Sajel                  | Punta Arenas.           | Jan. 18      | Pacifico  | John Leale                      | San Francisco.            |

\* Other than ships passing through the Canal.



# THE PANAMA CANAL RECORD

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Volume XV. Balboa Heights, C. Z., February 1, 1922. No. 25.

## CANAL WORK IN DECEMBER.

The following is the report of the Acting Governor to the Secretary of War, of Canal work in the month of December, 1921:

BALBOA HEIGHTS, C. Z., January 26, 1922.

*The Honorable, the Secretary of War,  
Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of December, 1921.

### CANAL TRAFFIC.

The total number of vessels and craft of all kinds transiting the Canal, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                                 | December,<br>1921. | November,<br>1921. | December,<br>1920. |
|-------------------------------------------------|--------------------|--------------------|--------------------|
| Commercial vessels.....                         | 239                | 222                | 265                |
| Noncommercial vessels.....                      | 35                 | 13                 | 21                 |
| Launches, etc. (under 10 tons measurement)..... | 4                  | 4                  | 9                  |
| Total vessels and craft through Canal.....      | 278                | 239                | 295                |

In addition to the foregoing, Panama Canal equipment consisting of crane boats, dredges, pile drivers, barges, etc., was passed through locks as follows: Gatun, 26; Pedro Miguel, 59; Miraflores, 60.

### COMMERCIAL TRAFFIC.<sup>1</sup>

#### Tolls.

Under the present dual method of assessing tolls, the revenue from this source was \$1,003,598.27. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the total revenue would have been increased by \$183,043.25. This additional tolls would have been contributed by nationality of ships as follows:

|                     | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|---------------------|----------------------------|----------------------------|-------------|
| British.....        | \$39,298.90                | \$25,089.25                | \$64,388.15 |
| Chilean.....        | 1,554.65                   | 2,512.55                   | 4,067.20    |
| Danish.....         | 3,167.15                   | 3,104.85                   | 6,272.00    |
| Dutch.....          | 5,718.10                   | 3,739.40                   | 9,457.50    |
| French.....         | 1,298.75                   | 519.52                     | 1,818.27    |
| German.....         | 944.80                     | 1,063.00                   | 2,007.80    |
| Japanese.....       | 6,166.45                   | 2,675.15                   | 8,841.60    |
| Norwegian.....      | 3,030.95                   | 1,297.20                   | 4,328.15    |
| Panaman (gain)..... | 2.07                       | 21.85                      | 19.78       |
| Peruvian.....       | 3,015.25                   | 3,015.25                   | 6,030.50    |
| Spanish.....        | 460.10                     | 460.10                     | 460.10      |
| Swedish.....        | 4,274.75                   | 108.65                     | 4,383.40    |
| United States.....  | 32,715.15                  | 38,253.65                  | 70,968.80   |
| Totals.....         | 101,182.83                 | 81,860.42                  | 183,043.25  |

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Ships not paying tolls are classed as "noncommercial."

The additional tolls paid by United States vessels would have been distributed among the following channels of trade:

|                                                  | Atlantic to Pacific. | Pacific to Atlantic. | Total.      |
|--------------------------------------------------|----------------------|----------------------|-------------|
| United States coastwise ports.....               | \$14,270.20          | \$21,434.85          | \$35,705.05 |
| United States and Canal Zone ports.....          | 561.46               | 566.30               | 1,127.76    |
| United States and United States possessions..... | 5,131.75             | 4,488.00             | 9,619.75    |
| United States and foreign ports.....             | 12,432.03            | 11,764.50            | 24,196.53   |
| Between foreign ports.....                       | 319.71               |                      | 319.71      |
| Totals.....                                      | 32,715.15            | 38,253.65            | 70,968.80   |

Of the above additional revenue that would have been collected by using the Panama Canal rules exclusively, \$4,182 represents the additional tolls that would have been collected on account of deck cargo.

#### COMPARATIVE TRAFFIC STATISTICS.

The following tabulations permit a ready comparison of commercial traffic through the Canal in December, 1921, with that of the preceding months, along the lines indicated at the head of the various tables:

#### TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | December, 1921. | November, 1921. | December, 1920. | Average month for past year. |
|-------------------------------------------|-----------------|-----------------|-----------------|------------------------------|
| United States equivalent net tonnage..... | \$27,340        | 753,697         | \$32,407        | 775,307                      |
| Panama Canal net tonnage.....             | 1,017,244       | 942,411         | 1,027,918       | 952,984                      |
| Registered gross tonnage.....             | 1,284,499       | 1,184,157       | 1,298,864       | 1,204,319                    |
| Registered net tonnage.....               | 820,431         | 752,886         | 823,758         | 768,793                      |
| Tolls.....                                | \$1,003,598.27  | \$923,048.70    | \$1,007,849.32  | \$938,424.90                 |
| Tons of cargo carried.....                | 953,053         | 855,440         | 1,076,539       | 892,250                      |

#### UNITED STATES COASTWISE TRAFFIC.

|                | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|----------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.          |                      |                    |             |                |                      |                    |             |                |
| January.....   | 17                   | 88,086             | \$91,390.00 | 76,593         | 16                   | 62,765             | \$64,343.59 | 81,336         |
| February.....  | 15                   | 80,940             | 79,169.10   | 67,302         | 17                   | 66,043             | 66,703.70   | 68,345         |
| March.....     | 16                   | 71,770             | 75,338.65   | 55,111         | 11                   | 61,804             | 64,470.64   | 52,289         |
| April.....     | 19                   | 92,033             | 94,185.00   | 94,484         | 14                   | 68,368             | 65,523.74   | 59,306         |
| May.....       | 19                   | 82,257             | 84,545.85   | 90,617         | 16                   | 75,593             | 72,813.55   | 93,242         |
| June.....      | 17                   | 96,199             | 94,577.11   | 68,809         | 11                   | 53,986             | 53,953.75   | 57,234         |
| July.....      | 19                   | 101,924            | 99,474.75   | 60,997         | 14                   | 70,477             | 72,103.75   | 91,991         |
| August.....    | 19                   | 86,278             | 81,724.17   | 55,387         | 23                   | 110,899            | 118,316.25  | 129,792        |
| September..... | 25                   | 134,239            | 136,340.58  | 72,620         | 15                   | 88,111             | 83,011.64   | 104,642        |
| October.....   | 22                   | 113,712            | 116,752.05  | 86,442         | 19                   | 96,731             | 101,710.00  | 105,951        |
| November.....  | 24                   | 136,349            | 131,558.19  | 91,067         | 17                   | 86,958             | 88,339.80   | 101,460        |
| December.....  | 20                   | 104,152            | 106,549.80  | 73,967         | 23                   | 116,482            | 117,600.08  | 105,134        |

#### UNITED STATES SHIPPING BOARD VESSELS.

|                | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|----------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.          |                      |                    |             |                |                      |                    |             |                |
| January.....   | 14                   | 59,738             | \$64,769.85 | 70,058         | 23                   | 96,877             | \$93,268.29 | 98,075         |
| February.....  | 8                    | 41,024             | 42,951.75   | 35,018         | 20                   | 96,441             | 94,082.01   | 108,285        |
| March.....     | 18                   | 94,823             | 96,782.80   | 83,978         | 8                    | 34,066             | 31,378.00   | 30,025         |
| April.....     | 13                   | 61,176             | 61,590.00   | 60,231         | 12                   | 56,049             | 53,162.18   | 52,908         |
| May.....       | 9                    | 39,614             | 40,180.00   | 48,489         | 21                   | 97,257             | 92,380.47   | 114,107        |
| June.....      | 17                   | 86,361             | 78,770.14   | 65,945         | 11                   | 49,370             | 48,080.00   | 59,696         |
| July.....      | 12                   | 67,851             | 65,796.25   | 29,918         | 12                   | 60,804             | 61,305.00   | 82,767         |
| August.....    | 15                   | 76,570             | 71,607.58   | 46,542         | 18                   | 79,390             | 77,353.39   | 91,897         |
| September..... | 10                   | 53,816             | 51,785.48   | 38,368         | 16                   | 84,433             | 82,566.25   | 109,610        |
| October.....   | 10                   | 55,300             | 53,475.00   | 34,593         | 14                   | 61,980             | 62,318.75   | 79,129         |
| November.....  | 12                   | 74,635             | 71,525.74   | 44,976         | 5                    | 29,949             | 29,127.50   | 28,865         |
| December.....  | 9                    | 47,604             | 46,318.75   | 44,101         | 6                    | 32,957             | 32,803.75   | 28,784         |

## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

|                                           | December,<br>1921. | November,<br>1921. | December,<br>1920. |
|-------------------------------------------|--------------------|--------------------|--------------------|
| United States equivalent net tonnage..... | 3,461              | 3,395              | 3,141              |
| Panama Canal net tonnage.....             | 4,256              | 4,245              | 3,879              |
| Registered gross tonnage.....             | 5,378              | 5,334              | 4,901              |
| Registered net tonnage.....               | 3,432              | 3,391              | 3,108              |
| Tolls.....                                | \$4,199.15         | \$4,157.88         | \$3,893.20         |
| Tons of cargo (all vessels).....          | 3,987              | 3,853              | 4,062              |
| Tons of cargo (laden vessels only).....   | 4,412              | 4,322              | 4,523              |

## COMMODITY STATISTICS.

A classification of cargo passing through the Canal during the month of December, 1921, has been compiled from declarations of cargo submitted by the ships' masters, and while incomplete, is indicative of the kind and quantity of the various commodities carried by ships transiting the Canal. From the cargo declarations and manifests submitted, it was possible to classify by commodities 75 per cent of all cargo passing from the Atlantic to the Pacific, and 88 per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith:

| Commodity.                                       | December,<br>1921. | November,<br>1921. | October,<br>1921. | September,<br>1921. |
|--------------------------------------------------|--------------------|--------------------|-------------------|---------------------|
| <b>Atlantic to Pacific.</b>                      |                    |                    |                   |                     |
| Oil.....                                         |                    | 30,144             | 68,891            | 17,981              |
| Crude.....                                       | 48,272             | 47,944             | 25,840            | 19,781              |
| Refined.....                                     | 46,970             | 3,113              | 1,121             | 2,088               |
| Other.....                                       | 1,918              |                    |                   |                     |
| Manufactured goods:                              |                    |                    |                   |                     |
| Iron and steel.....                              | 81,168             | 65,071             | 48,074            | 50,488              |
| Machinery, railroad material, textiles, etc..... | 24,120             | 23,927             | 14,659            | 19,331              |
| Coal and coke.....                               | 46,462             | 52,850             | 21,512            | 16,040              |
| Cotton, raw.....                                 | 37,614             | 20,807             | 14,725            | 19,207              |
| Metals.....                                      | 22,007             | 10,052             | 8,880             | 8,467               |
| Ammonia.....                                     | 11,592             | 7,447              | 12,072            | 4,749               |
| Cement.....                                      | 10,809             | 5,233              | 2,681             | 1,834               |
| Paper.....                                       | 5,077              | 2,900              | 2,813             | 1,210               |
| Sulphur.....                                     | 4,000              | 2,500              |                   | 11,551              |
| Tobacco.....                                     | 3,086              | 2,075              | 2,879             | 2,452               |
| Other and general.....                           | 174,015            | 112,618            | 150,290           | 125,541             |
| <b>Total cargo.....</b>                          | <b>517,110</b>     | <b>386,681</b>     | <b>374,437</b>    | <b>300,720</b>      |
| <b>Pacific to Atlantic.</b>                      |                    |                    |                   |                     |
| Nitrate.....                                     | 59,957             | 39,523             | 54,256            | 22,758              |
| Manufactured goods: Iron and steel, etc.....     | 2,550              | 265                | 1,053             | 556                 |
| Wheat.....                                       | 35,127             | 110,831            | 128,375           | 75,486              |
| Lumber.....                                      | 42,610             | 50,564             | 56,606            | 26,750              |
| Barley.....                                      | 21,781             | 37,989             | 67,092            | 107,831             |
| Oils:                                            |                    |                    |                   |                     |
| Crude.....                                       | 4,723              | 26,617             | 670               | 4,820               |
| Refined.....                                     | 16,165             | 10,169             | 9,713             | 18,278              |
| Other.....                                       | 14,469             | 761                | 1,581             | 1,545               |
| Canned goods:                                    |                    |                    |                   |                     |
| Fish.....                                        | 5,202              | 13,767             | 32,761            | 17,232              |
| Fruit.....                                       | 15,982             | 19,808             | 25,547            | 35,427              |
| Vegetables, milk, etc.....                       | 1,660              | 1,470              | 2,523             | 4,302               |
| Ores.....                                        | 9,805              | 13,218             | 3,824             | 6,433               |
| Metals.....                                      | 10,959             | 14,515             | 11,078            | 10,516              |
| Fruit, fresh and dried.....                      | 3,876              | 13,060             | 4,162             | 6,664               |
| Sugar.....                                       | 29,879             | 11,210             | 20,261            | 6,657               |
| Beans, peas, lentils.....                        | 5,351              | 9,270              | 20,547            | 6,774               |
| Flour.....                                       | 8,881              | 8,799              | 19,000            | 15,101              |
| Phosphates.....                                  | 8,900              | 7,300              | 14,057            |                     |
| Cold storage (meats, butter, etc.).....          | 13,809             | 4,920              | 18,739            | 10,600              |
| Cotton.....                                      | 6,660              | 4,886              | 12,592            | 5,392               |
| Rice.....                                        | 6,401              | 4,678              | 4,054             | 7,205               |
| Wool.....                                        | 5,555              | 4,349              | 9,081             | 5,522               |
| Coffee.....                                      | 4,529              | 3,785              | 4,594             | 6,013               |
| Ivory nuts.....                                  | 2,482              | 3,012              | 2,811             | 3,164               |
| Cacao.....                                       | 4,745              | 2,862              | 3,844             | 4,327               |
| Tea.....                                         | 1,394              | 1,933              | 3,950             | 546                 |
| Other and general.....                           | 92,491             | 49,148             | 78,567            | 44,275              |
| <b>Total cargo.....</b>                          | <b>435,943</b>     | <b>468,759</b>     | <b>611,338</b>    | <b>454,174</b>      |

## TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

All cargo-carrying vessels pay tolls on their net tonnage as determined by established rules for measuring their available cargo-carrying space; the rate for such tolls per cargo ton varies in different ships as the ratio of cargo tonnage varies to the net tonnage. The table below is indicative of the ratio of cargo tonnage to net tonnage for the month of December, 1921, by nationality of vessels:

|                                             | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | General<br>average. |
|---------------------------------------------|----------------------------|----------------------------|---------------------|
| British.....                                | \$1.13                     | \$0.99                     | \$1.07              |
| Chilean.....                                | 2.39                       | 1.65                       | 1.81                |
| Danish.....                                 | .83                        | .65                        | .74                 |
| Dutch.....                                  | 1.11                       | .62                        | .79                 |
| French.....                                 | 2.78                       | 1.13                       | 1.64                |
| German.....                                 | 1.60                       | .95                        | 1.25                |
| Japanese.....                               | .93                        | .73                        | .88                 |
| Norwegian.....                              | .85                        | 1.06                       | .80                 |
| Panamanian.....                             |                            | .44                        | .44                 |
| Peruvian.....                               | 4.49                       | .81                        | 1.38                |
| Spanish.....                                |                            | .63                        | .63                 |
| Swedish.....                                | .85                        | .65                        | .83                 |
| United States.....                          | 1.18                       | 1.08                       | 1.11                |
| Average rate all ships, December, 1921..... | 1.10                       | .99                        | 1.05                |
| Average rate all ships, November, 1921..... | 1.19                       | .81                        | .98                 |
| Average rate all ships, October, 1921.....  | 1.09                       | .78                        | .90                 |

## ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past 12 months, the figures representing the Panama Canal net tonnage:

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.              | East coast<br>of United<br>States. | Europe. | Mexico. | Cristobal. | Miscel-<br>laneous. | Total.  |
|---------------------|------------------------------------|---------|---------|------------|---------------------|---------|
| December, 1920..... | 332,418                            | 128,739 | 53,070  | 36,097     | 4,608               | 554,932 |
| January, 1921.....  | 284,111                            | 129,939 | 60,564  | 21,373     | 21,732              | 517,719 |
| February.....       | 268,727                            | 75,532  | 55,859  | 18,844     | 16,271              | 435,233 |
| March.....          | 291,937                            | 188,548 | 85,275  | 20,731     | 27,100              | 613,591 |
| April.....          | 261,497                            | 131,840 | 46,289  | 21,846     | 31,034              | 492,506 |
| May.....            | 231,751                            | 107,404 | 48,151  | 20,612     | 6,511               | 414,429 |
| June.....           | 250,806                            | 79,129  | 37,401  | 28,920     | 19,046              | 415,302 |
| July.....           | 221,318                            | 124,108 | 23,167  | 23,488     | 10,970              | 403,051 |
| August.....         | 257,600                            | 175,768 | 15,827  | 21,202     | 17,122              | 487,219 |
| September.....      | 277,984                            | 160,534 | 10,889  | 23,038     | 58,189              | 580,634 |
| October.....        | 262,440                            | 226,431 | 27,828  | 20,516     | 33,960              | 571,175 |
| November.....       | 301,680                            | 192,594 | 14,997  | 18,444     | 11,302              | 539,017 |
| December.....       | 312,225                            | 198,287 | 21,113  | 15,601     | 28,443              | 575,669 |
| Average month.....  | 273,422                            | 147,604 | 38,471  | 22,362     | 22,022              | 503,883 |

## DESTINATION OF ALL TONNAGE FROM ATLANTIC TO PACIFIC.

| Month.              | West coast<br>of United<br>States. | West coast<br>of South<br>America. | Far East. | Austral-<br>asia. | Miscel-<br>laneous. | Total.  |
|---------------------|------------------------------------|------------------------------------|-----------|-------------------|---------------------|---------|
| December, 1920..... | 91,963                             | 248,176                            | 99,594    | 84,168            | 31,031              | 554,932 |
| January, 1921.....  | 163,295                            | 170,861                            | 56,082    | 94,583            | 32,898              | 517,719 |
| February.....       | 119,271                            | 168,904                            | 66,958    | 62,507            | 17,593              | 435,233 |
| March.....          | 139,889                            | 146,075                            | 118,053   | 153,910           | 55,664              | 613,591 |
| April.....          | 141,584                            | 135,622                            | 131,637   | 64,155            | 19,508              | 492,506 |
| May.....            | 125,091                            | 103,143                            | 82,499    | 82,582            | 21,114              | 414,429 |
| June.....           | 143,217                            | 106,369                            | 83,063    | 46,298            | 36,355              | 415,302 |
| July.....           | 194,358                            | 45,391                             | 63,969    | 58,062            | 41,271              | 403,051 |
| August.....         | 164,577                            | 106,886                            | 94,486    | 70,551            | 50,719              | 487,219 |
| September.....      | 268,758                            | 90,105                             | 80,242    | 53,309            | 38,220              | 530,634 |
| October.....        | 280,483                            | 78,532                             | 100,332   | 69,057            | 42,771              | 571,175 |
| November.....       | 216,092                            | 107,721                            | 95,216    | 78,493            | 41,495              | 539,017 |
| December.....       | 188,615                            | 115,980                            | 136,940   | 84,391            | 49,743              | 575,669 |
| Average month.....  | 172,092                            | 124,905                            | 93,005    | 77,082            | 36,798              | 503,883 |



## ORIGIN OF ALL TONNAGE FROM PACIFIC TO ATLANTIC.

| Month.              | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|---------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| December, 1920..... | 145,192                      | 239,389                      | 11,146    | 58,175       | 19,084         | 472,986 |
| January, 1921.....  | 151,034                      | 230,437                      | 26,843    | 115,206      | 53,084         | 576,604 |
| February.....       | 173,815                      | 226,242                      | 22,473    | 34,616       | 24,459         | 481,605 |
| March.....          | 163,294                      | 203,002                      | 28,525    | 62,652       | 41,754         | 499,227 |
| April.....          | 139,495                      | 168,585                      | 29,756    | 85,560       | 38,601         | 462,997 |
| May.....            | 174,128                      | 137,258                      | 12,407    | 81,086       | 45,309         | 450,188 |
| June.....           | 116,521                      | 112,474                      | 18,740    | 75,400       | 23,040         | 346,175 |
| July.....           | 174,412                      | 99,745                       | 41,084    | 70,124       | 22,197         | 407,562 |
| August.....         | 229,629                      | 110,248                      | 20,628    | 68,661       | 48,894         | 478,067 |
| September.....      | 218,453                      | 84,212                       | 14,762    | 30,814       | 46,262         | 394,503 |
| October.....        | 252,645                      | 124,560                      | 37,720    | 41,436       | 42,018         | 498,379 |
| November.....       | 189,942                      | 126,381                      | 23,556    | 6,581        | 56,934         | 403,394 |
| December.....       | 195,969                      | 135,952                      | 28,194    | 39,616       | 41,844         | 441,575 |
| Average month.....  | 178,809                      | 153,730                      | 24,295    | 59,302       | 38,652         | 454,865 |

## DESTINATION OF ALL TONNAGE FROM PACIFIC TO ATLANTIC.

| Month.              | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|---------------------|---------|------------------------------|---------|------------|----------------|---------|
| December, 1920..... | 198,618 | 157,070                      | 69,008  | 34,099     | 14,191         | 472,986 |
| January, 1921.....  | 293,836 | 188,133                      | 49,947  | 23,295     | 21,393         | 576,604 |
| February.....       | 175,324 | 163,690                      | 74,363  | 18,056     | 50,174         | 481,605 |
| March.....          | 190,683 | 189,793                      | 83,700  | 21,228     | 13,823         | 499,227 |
| April.....          | 189,209 | 197,311                      | 53,334  | 22,043     | 1,100          | 462,997 |
| May.....            | 201,548 | 140,940                      | 73,705  | 21,549     | 12,446         | 450,188 |
| June.....           | 155,147 | 136,292                      | 18,324  | 26,112     | 10,300         | 346,175 |
| July.....           | 205,690 | 134,047                      | 23,123  | 28,770     | 15,932         | 407,562 |
| August.....         | 231,830 | 194,279                      | 27,256  | 22,022     | 2,670          | 478,067 |
| September.....      | 204,820 | 140,555                      | 26,478  | 17,114     | 5,536          | 394,503 |
| October.....        | 259,613 | 170,189                      | 18,222  | 30,955     | 19,400         | 498,379 |
| November.....       | 196,974 | 164,345                      | 20,446  | 16,760     | 4,869          | 403,394 |
| December.....       | 191,277 | 192,575                      | 25,550  | 21,739     | 10,434         | 441,575 |
| Average month.....  | 207,274 | 166,863                      | 43,343  | 23,365     | 14,021         | 454,865 |

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of December of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

|                                  | Tonnage routed to— |                    | Tonnage routed from— |                    |
|----------------------------------|--------------------|--------------------|----------------------|--------------------|
|                                  | Per cent increase. | Per cent decrease. | Per cent increase.   | Per cent decrease. |
| Europe.....                      |                    | 7.7                | 34.2                 |                    |
| East coast of United States..... | 15.4               |                    | 14.2                 |                    |
| East coast of Mexico.....        |                    | 41.3               |                      | 45.0               |
| Cristobal, C. Z.....             |                    | 7.0                |                      | 30.7               |
| West coast of United States..... | 9.6                |                    | 9.6                  |                    |
| West coast of South America..... |                    | 7.1                | 11.5                 |                    |
| Australasia.....                 | 9.1                |                    |                      | 33.3               |
| Far East.....                    | 47.2               |                    | 16.2                 |                    |

## TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of December, 1921, has been previously compiled and was published in THE PANAMA CANAL RECORD under date of January 11, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes for the month of December, 1921, for the preceding month and for the corresponding month of last year:

| Vessels plying between—              | Atlantic to Pacific.      |                    |                    | Pacific to Atlantic.      |                    |                    |
|--------------------------------------|---------------------------|--------------------|--------------------|---------------------------|--------------------|--------------------|
|                                      | December,<br>1921.        | November,<br>1921. | December,<br>1920. | December,<br>1921.        | November,<br>1921. | December,<br>1920. |
|                                      | Number of vessels.        |                    |                    | Number of vessels.        |                    |                    |
| United States coastwise.....         | 20                        | 24                 | 12                 | 23                        | 17                 | 10                 |
| United States and Far East.....      | 27                        | 17                 | 17                 | 5                         | 4                  | 2                  |
| Europe and United States.....        | 15                        | 13                 | 8                  | 12                        | 21                 | 15                 |
| United States and South America..... | 10                        | 12                 | 40                 | 10                        | 11                 | 26                 |
| Europe and South America.....        | 12                        | 11                 | 10                 | 19                        | 13                 | 16                 |
| Cristobal and South America.....     | 9                         | 10                 | 17                 | 9                         | 10                 | 17                 |
| Europe and Australasia.....          | 8                         | 8                  | 6                  | 5                         | 1                  | 6                  |
| United States and Australasia.....   | 5                         | 5                  | 6                  | 1                         | .....              | 2                  |
| Europe and Canada.....               | 4                         | 5                  | 1                  | 2                         | 7                  | 1                  |
| Mexico and United States.....        | 1                         | 2                  | 1                  | 2                         | .....              | 5                  |
| Mexico and South America.....        | 2                         | 1                  | 8                  | 1                         | 4                  | 6                  |
| Miscellaneous.....                   | 22                        | 15                 | 19                 | 15                        | 11                 | 14                 |
| Totals.....                          | 135                       | 123                | 145                | 104                       | 99                 | 120                |
|                                      | Panama Canal net tonnage. |                    |                    | Panama Canal net tonnage. |                    |                    |
| United States coastwise.....         | 104,152                   | 136,349            | 46,773             | 116,482                   | 86,958             | 43,332             |
| United States and Far East.....      | 127,353                   | 91,115             | 84,873             | 24,572                    | 19,159             | 9,413              |
| Europe and United States.....        | 63,732                    | 57,229             | 35,958             | 62,655                    | 96,647             | 74,953             |
| United States and South America..... | 38,745                    | 40,368             | 135,206            | 33,707                    | 41,217             | 87,836             |
| Europe and South America.....        | 49,830                    | 42,473             | 44,391             | 85,435                    | 51,947             | 74,957             |
| Cristobal and South America.....     | 10,947                    | 13,111             | 29,078             | 11,759                    | 12,149             | 28,673             |
| Europe and Australasia.....          | 56,151                    | 58,006             | 43,491             | 31,395                    | 6,581              | 43,260             |
| United States and Australasia.....   | 22,746                    | 20,487             | 36,775             | 4,127                     | .....              | 14,915             |
| Europe and Canada.....               | 20,914                    | 28,102             | 4,899              | 10,431                    | 37,402             | 5,448              |
| Mexico and United States.....        | 4,903                     | 9,946              | 5,476              | 13,033                    | .....              | 23,240             |
| Mexico and South America.....        | 10,362                    | 5,051              | 38,795             | 5,051                     | 20,446             | 32,479             |
| Miscellaneous.....                   | 65,834                    | 36,780             | 49,217             | 42,928                    | 30,888             | 34,480             |
| Totals.....                          | 575,669                   | 539,017            | 554,932            | 441,575                   | 403,394            | 472,986            |
|                                      | Tons of cargo carried.    |                    |                    | Tons of cargo carried.    |                    |                    |
| United States coastwise.....         | 73,967                    | 91,067             | 53,802             | 105,134                   | 101,460            | 35,213             |
| United States and Far East.....      | 194,595                   | 116,028            | 120,887            | 28,182                    | 23,080             | 11,280             |
| Europe and United States.....        | 31,004                    | 17,313             | 12,658             | 91,812                    | 151,491            | 97,955             |
| United States and South America..... | 13,313                    | 14,878             | 171,273            | 31,659                    | 44,225             | 117,695            |
| Europe and South America.....        | 28,989                    | 19,473             | 28,955             | 109,202                   | 68,994             | 92,611             |
| Cristobal and South America.....     | 2,089                     | 2,269              | 10,156             | 7,436                     | 6,927              | 18,367             |
| Europe and Australasia.....          | 40,269                    | 48,400             | 29,226             | 32,981                    | 5,775              | 32,308             |
| United States and Australasia.....   | 27,430                    | 21,659             | 47,391             | 1,347                     | .....              | 10,720             |
| Europe and Canada.....               | 17,233                    | 6,611              | 1,582              | 11,916                    | 41,171             | 7,407              |
| Mexico and United States.....        | 11,000                    | 20,300             | 8,000              | .....                     | .....              | 4,564              |
| Mexico and South America.....        | 18,500                    | 9,000              | 65,833             | .....                     | .....              | .....              |
| Miscellaneous.....                   | 58,721                    | 19,683             | 69,638             | 16,274                    | 25,636             | 28,968             |
| Totals.....                          | 517,110                   | 386,681            | 619,451            | 435,943                   | 468,759            | 457,088            |

## VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships, and other noncargo-carrying vessels, are shown in the following tabulation:

|                    | Atlantic to Pacific. |                                 |             | Pacific to Atlantic. |                                 |             |
|--------------------|----------------------|---------------------------------|-------------|----------------------|---------------------------------|-------------|
|                    | No.<br>of<br>ships.  | Panama<br>Canal net<br>tonnage. | Tolls.      | No.<br>of<br>ships.  | Panama<br>Canal net<br>tonnage. | Tolls.      |
| British.....       | 4                    | 17,972                          | \$12,939.84 | 3                    | 15,596                          | \$11,397.27 |
| French.....        | .....                | .....                           | .....       | 1                    | 2,096                           | 1,616.25    |
| Norwegian.....     | .....                | .....                           | .....       | 1                    | 5,051                           | 3,636.72    |
| United States..... | 7                    | 24,780                          | 17,996.25   | 4                    | 18,897                          | 13,605.84   |
| Japanese.....      | 2                    | 9,644                           | 11,412.30   | .....                | .....                           | .....       |
| Panamanian.....    | 1                    | 69                              | 51.75       | .....                | .....                           | .....       |
| Totals.....        | 14                   | 52,465                          | 42,400.14   | 9                    | 41,640                          | 30,256.08   |

## LATIN-AMERICAN TRAFFIC.

The following tabulations show the number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality:

## ATLANTIC TO PACIFIC.

| Nationality.        | No. of ships. | Tonnage.                  |                   |             |         | Tolls.      | Tons of cargo. |
|---------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                     |               | United States equivalent. | Panama Canal net. | Registered. |         |             |                |
|                     |               |                           |                   | Gross.      | Net.    |             |                |
| British.....        | 20            | 45,671                    | 56,713            | 78,983      | 47,420  | \$54,781.20 | 43,334         |
| United States.....  | 14            | 41,411                    | 50,646            | 63,131      | 41,207  | 46,945.39   | 34,927         |
| Norwegian.....      | 3             | 8,533                     | 9,343             | 12,447      | 7,911   | 10,542.85   | 12,218         |
| German.....         | 3             | 7,993                     | 8,895             | 10,591      | 6,527   | 9,749.60    | 6,174          |
| Danish.....         | 2             | 6,316                     | 7,396             | 9,281       | 5,929   | 7,772.25    | 8,616          |
| French.....         | 2             | 5,302                     | 6,076             | 8,283       | 5,342   | 6,448.95    | 3,600          |
| Dutch.....          | 2             | 4,236                     | 6,927             | 6,832       | 4,218   | 5,295.00    | 4,440          |
| Peruvian.....       | 2             | 2,719                     | 5,345             | 9,020       | 4,517   | 3,398.75    | 757            |
| Japanese.....       | 1             | 3,684                     | 4,241             | 5,850       | 3,642   | 4,605.00    | 3,934          |
| Swedish.....        | 1             | 3,430                     | 5,533             | 5,524       | 4,225   | 4,287.50    | 950            |
| Chilean.....        | 1             | 1,811                     | 3,182             | 3,798       | 2,272   | 2,263.75    | 950            |
| Panamanian.....     | 1             | 69                        | 69                | 123         | 72      | 51.75       | .....          |
| December, 1921..... | 52            | 131,175                   | 164,366           | 213,863     | 133,282 | 156,141.99  | 119,860        |
| November, 1921..... | 45            | 103,309                   | 129,988           | 169,286     | 104,285 | 122,533.27  | 75,426         |
| December, 1920..... | 90            | 226,567                   | 278,344           | 362,876     | 226,489 | .....       | 318,579        |

## PACIFIC TO ATLANTIC.

| Nationality.        | No. of ships. | Tonnage.                   |                   |            |         | Tolls.      | Tons of cargo. |
|---------------------|---------------|----------------------------|-------------------|------------|---------|-------------|----------------|
|                     |               | United States. equivalent. | Panama Canal net. | Registered |         |             |                |
|                     |               |                            |                   | Gross.     | Net.    |             |                |
| British.....        | 26            | 82,363                     | 98,814            | 128,689    | 80,947  | \$95,720.17 | 90,281         |
| United States.....  | 11            | 27,526                     | 33,344            | 43,401     | 28,358  | 28,335.76   | 11,291         |
| French.....         | 2             | 6,374                      | 7,028             | 9,622      | 6,104   | 6,890.00    | 7,143          |
| German.....         | 2             | 4,996                      | 6,065             | 8,213      | 5,123   | 6,245.00    | 6,604          |
| Chilean.....        | 2             | 4,565                      | 6,624             | 9,759      | 5,253   | 5,706.25    | 3,456          |
| Norwegian.....      | 2             | 5,380                      | 6,230             | 8,653      | 5,413   | 4,852.97    | 1,025          |
| Dutch.....          | 2             | 3,560                      | 5,819             | 5,880      | 3,576   | 4,450.00    | 8,911          |
| Peruvian.....       | 2             | 2,719                      | 5,345             | 9,020      | 4,517   | 3,398.75    | 4,155          |
| Japanese.....       | 1             | 4,468                      | 4,524             | 6,097      | 4,454   | 5,428.80    | 7,416          |
| Danish.....         | 1             | 3,127                      | 4,090             | 4,950      | 3,163   | 3,908.75    | 6,328          |
| Spanish.....        | 1             | 2,414                      | 2,898             | 3,812      | 2,771   | 3,017.50    | 4,830          |
| Swedish.....        | 1             | 1,091                      | 1,227             | 1,825      | 1,282   | 1,363.75    | 2,121          |
| Panamanian.....     | 1             | 187                        | 187               | 187        | 187     | 233.75      | 526            |
| December, 1921..... | 54            | 148,770                    | 182,195           | 240,108    | 151,148 | 169,551.45  | 154,087        |
| November, 1921..... | 44            | 102,813                    | 135,166           | 175,481    | 105,463 | 121,103.92  | 123,150        |
| December, 1920..... | 85            | 227,972                    | 286,992           | 370,782    | 231,215 | .....       | 262,305        |

## CLASSIFICATION OF COMMERCIAL TRAFFIC.

A statement of this month's commercial traffic, classified by nationality of vessels, is shown in the following tabulations:

| Nationality.              | No. of ships. | Tonnage.                   |                   |            |         | Tolls.       | Tons of cargo. |
|---------------------------|---------------|----------------------------|-------------------|------------|---------|--------------|----------------|
|                           |               | United States. equivalent. | Panama Canal net. | Registered |         |              |                |
|                           |               |                            |                   | Gross.     | Net.    |              |                |
| From Atlantic to Pacific. |               |                            |                   |            |         |              |                |
| British                   | 51            | 175,910                    | 217,790           | 274,490    | 171,575 | \$215,884.14 | 191,631        |
| Chilean                   | 1             | 1,811                      | 3,182             | 3,798      | 2,272   | 2,263.75     | 950            |
| Danish                    | 3             | 9,694                      | 12,615            | 14,778     | 9,354   | 11,994.85    | 14,495         |
| Dutch                     | 3             | 8,710                      | 13,838            | 14,142     | 8,713   | 10,887.50    | 9,866          |
| French                    | 3             | 8,940                      | 10,246            | 14,079     | 9,031   | 10,996.45    | 3,960          |
| German                    | 3             | 7,993                      | 8,895             | 10,591     | 6,527   | 9,749.60     | 6,174          |
| Japanese                  | 14            | 54,051                     | 60,875            | 80,718     | 52,729  | 66,883.55    | 71,579         |
| Norwegian                 | 7             | 24,769                     | 28,203            | 34,812     | 22,583  | 30,837.85    | 36,219         |
| Panaman                   | 1             | 69                         | 69                | 123        | 72      | 51.75        | .....          |
| Peruvian                  | 2             | 2,719                      | 5,345             | 9,020      | 4,517   | 3,398.75     | 757            |
| Swedish                   | 3             | 12,041                     | 16,105            | 17,877     | 13,329  | 15,051.25    | 17,735         |
| United States             | 44            | 161,321                    | 198,506           | 246,074    | 158,788 | 193,744.05   | 163,744        |
| Totals.....               | 135           | 468,028                    | 575,669           | 720,502    | 459,490 | 571,743.49   | 517,110        |



| Nationality.                | No. of ships. | Tonnage.                  |                   |             |         | Tolls.       | Tons of cargo. |
|-----------------------------|---------------|---------------------------|-------------------|-------------|---------|--------------|----------------|
|                             |               | United States equivalent. | Panama Canal net. | Registered. |         |              |                |
|                             |               |                           |                   | Gross.      | Net.    |              |                |
| From Pacific to Atlantic.   |               |                           |                   |             |         |              |                |
| British.....                | 37            | 131,451                   | 157,717           | 203,986     | 129,245 | \$156,697.07 | 157,639        |
| Chilean.....                | 2             | 4,565                     | 6,624             | 9,759       | 5,253   | 5,706.25     | 3,456          |
| Danish.....                 | 2             | 6,495                     | 9,353             | 10,447      | 6,588   | 8,118.75     | 12,506         |
| Dutch.....                  | 3             | 8,420                     | 11,887            | 13,531      | 8,372   | 10,525.00    | 17,186         |
| French.....                 | 3             | 10,700                    | 11,391            | 15,545      | 9,867   | 12,143.60    | 10,784         |
| German.....                 | 2             | 4,996                     | 6,065             | 8,213       | 5,123   | 6,245.00     | 6,604          |
| Japanese.....               | 4             | 15,741                    | 18,496            | 24,472      | 15,743  | 19,520.05    | 26,774         |
| Norwegian.....              | 3             | 9,903                     | 11,857            | 15,746      | 9,892   | 10,506.72    | 9,921          |
| Panamanian.....             | 1             | 187                       | 187               | 187         | 187     | 233.75       | 526            |
| Peruvian.....               | 2             | 2,719                     | 5,345             | 9,020       | 4,517   | 3,398.75     | 4,155          |
| Spanish.....                | 1             | 2,414                     | 2,898             | 3,812       | 2,771   | 3,017.50     | 4,830          |
| Swedish.....                | 1             | 1,091                     | 1,227             | 1,825       | 1,282   | 1,363.75     | 2,121          |
| United States.....          | 43            | 160,630                   | 198,528           | 247,454     | 162,101 | 194,384.59   | 179,441        |
| Totals.....                 | 104           | 359,312                   | 441,575           | 563,997     | 360,941 | 431,854.78   | 435,943        |
| Combined traffic both ways. |               |                           |                   |             |         |              |                |
| British.....                | 88            | 307,361                   | 375,507           | 478,476     | 300,820 | 372,575.21   | 349,270        |
| Chilean.....                | 3             | 6,376                     | 9,806             | 12,557      | 7,525   | 7,970.00     | 4,406          |
| Danish.....                 | 5             | 16,189                    | 21,968            | 25,225      | 15,942  | 20,113.60    | 27,001         |
| Dutch.....                  | 6             | 17,130                    | 25,725            | 27,673      | 17,085  | 21,412.50    | 27,052         |
| French.....                 | 6             | 19,640                    | 21,637            | 29,624      | 18,898  | 23,140.05    | 14,744         |
| German.....                 | 5             | 12,989                    | 14,960            | 18,804      | 11,650  | 15,994.60    | 12,778         |
| Japanese.....               | 18            | 69,792                    | 79,371            | 105,190     | 68,472  | 86,403.60    | 98,353         |
| Norwegian.....              | 10            | 34,672                    | 40,060            | 50,558      | 32,475  | 41,344.57    | 46,140         |
| Panamanian.....             | 2             | 256                       | 256               | 310         | 259     | 285.50       | 526            |
| Peruvian.....               | 4             | 5,438                     | 10,690            | 18,040      | 9,034   | 6,797.50     | 4,912          |
| Spanish.....                | 1             | 2,414                     | 2,898             | 3,812       | 2,771   | 3,017.50     | 4,830          |
| Swedish.....                | 4             | 13,132                    | 17,332            | 19,702      | 14,611  | 16,415.00    | 19,856         |
| United States.....          | 87            | 321,951                   | 397,034           | 493,528     | 320,889 | 388,128.64   | 343,185        |
| Totals.....                 | 239           | 827,340                   | 1,017,244         | 1,284,499   | 820,431 | 1,003,598.27 | 953,053        |

A further classification of the commercial traffic is shown below:

|                            | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|----------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                            | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels:    |                      |                           |              |                      |                           |              |
| Laden.....                 | 120                  | 523,204                   | \$527,035.35 | 95                   | 399,935                   | \$401,598.70 |
| Ballast (excess fuel)..... | 2                    | 9,644                     | 11,412.30    | 9                    | 41,640                    | 30,256.08    |
| Ballast.....               | 12                   | 42,821                    | 30,987.84    |                      |                           |              |
| Cruiser.....               | 1                    | (1)                       | 2,308.00     |                      |                           |              |
| Total commercial.....      | 135                  | 575,669                   | 571,743.49   | 104                  | 441,575                   | 431,854.78   |
| Motor ships.....           | 4                    | 19,968                    | 18,855.00    | 2                    | 9,717                     | 9,562.50     |
| Motor schooners.....       | 3                    | 213                       | 215.25       | 1                    | 72                        | 78.75        |
| Bark.....                  | 1                    | 2,167                     | 1,620.75     |                      |                           |              |
| Barge.....                 | 1                    | 3,638                     | 2,713.50     |                      |                           |              |

\* Displacement tonnage of 4,616 tons.

#### CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Canal free of tolls. If tolls had been assessed against these vessels at commercial rates, the amount paid would have been approximately as indicated. This statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these are not included in the commercial traffic:

|                              | Atlantic to Pacific. |                           |          | Pacific to Atlantic. |                           |           |
|------------------------------|----------------------|---------------------------|----------|----------------------|---------------------------|-----------|
|                              | No. of ships.        | Panama Canal net tonnage. | Tolls.   | No. of ships.        | Panama Canal net tonnage. | Tolls.    |
| United States naval vessels: |                      |                           |          |                      |                           |           |
| Subchasers.....              | 3                    | 231                       | \$115.50 | 3                    | 231                       | \$115.50  |
| Destroyers.....              |                      |                           |          | 11                   |                           |           |
| Colliers.....                | 1                    |                           |          | 2                    | 38,730                    | 19,365.00 |
| Tugs.....                    | 3                    | 2,755                     | 1,377.50 | 2                    | 1,755                     | 877.50    |

\* Indicates displacement tonnage.



|                                        | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |            |
|----------------------------------------|----------------------|---------------------------|------------|----------------------|---------------------------|------------|
|                                        | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
| United States naval vessels—Continued. |                      |                           |            |                      |                           |            |
| Cruiser.....                           | 1                    | 3,200                     | \$1,600.00 |                      |                           |            |
| Transports.....                        | 1                    | 3,919                     | 4,702.80   | 1                    | 10,000                    | \$5,000.00 |
| Ammunition ship.....                   | 1                    |                           |            |                      |                           |            |
| Tanker.....                            |                      |                           |            | 1                    |                           |            |
| Gunboat.....                           |                      |                           |            | 1                    | 2,600                     | 1,300.00   |
| Supply ship.....                       |                      |                           |            | 1                    | 5,920                     | 2,960.00   |
| United States Army mine planter.....   | 1                    | 46                        | 55.20      |                      |                           |            |
| Commercial vessels for repairs.....    | 1                    | 5,938                     | 5,532.50   | 1                    | 5,938                     | 5,532.50   |
| Launches.....                          | 3                    | 3                         | 3.15       | 1                    | 4                         | 3.00       |

\* Indicates displacement tonnage.

\* Indicates registered net tonnage.

Cargo through the Canal free of tolls:

|                          |           |        |
|--------------------------|-----------|--------|
| Atlantic to Pacific..... | tons..... | 16,742 |
| Pacific to Atlantic..... | tons..... | 2,035  |

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of December, 1921, are shown in the following tabulations:

|                                                                    | Cristobal. | Balboa. | Total.    |
|--------------------------------------------------------------------|------------|---------|-----------|
| Local cargo arriving..... tons..                                   | 41,580     | 41,495  | 83,075    |
| Local cargo shipped..... tons..                                    | 2,404      | 476     | 2,880     |
| Transit cargo arriving..... tons..                                 | 967,218    | 957,859 | 1,925,077 |
| Transit cargo clearing..... tons..                                 | 971,027    | 957,786 | 1,928,813 |
| Cargo received for transshipment..... tons..                       | 19,320     | 200     | 19,520    |
| Cargo transhipped..... tons..                                      | 22,329     | 127     | 22,456    |
| Cargo handled by Receiving and Forwarding Agency, Panama Railroad: |            |         |           |
| Received..... tons..                                               | 33,019     | 4,093   | 37,117    |
| Dispatched..... tons..                                             | 23,642     | 678     | 24,320    |
| Rehandled..... tons..                                              | 956        | 171     | 1,127     |
| Stevedored..... tons..                                             | 26,733     | 1,816   | 28,554    |
| Vessels supplied with bunker coal:                                 |            |         |           |
| Commercial, other than Panama Railroad.....                        | 71         | 5       | 76        |
| Panama Railroad vessels.....                                       | 7          |         | 7         |
| United States Army vessels.....                                    | 2          | 1       | 3         |
| Total vessels supplied with bunker coal.....                       | 80         | 6       | 86        |
| Coal supplied to above vessels:                                    |            |         |           |
| Commercial, other than Panama Railroad..... tons..                 | 21,846     | 151     | 21,997    |
| Panama Railroad vessels..... tons..                                | 1,228      |         | 1,228     |
| United States Army vessels..... tons..                             | 53         | 2       | 55        |
| Total coal supplied to vessels..... tons..                         | 23,127     | 153     | 23,280    |
| Coal issues, miscellaneous:                                        |            |         |           |
| Panama Canal departments..... tons..                               | 664        | 214     | 878       |
| Panama Railroad, excepting vessels..... tons..                     | 578        |         | 578       |
| United States Army, excepting vessels..... tons..                  | 303        |         | 303       |
| Individuals and companies..... tons..                              | 377        |         | 377       |
| Total issues from Panama Canal deposits:                           |            |         |           |
| December, 1921..... tons..                                         | 25,049     | 214     | 25,416    |
| November, 1921..... tons..                                         | 15,878     | 1,962   | 17,840    |
| December, 1920..... tons..                                         | 42,606     | 4,562   | 47,168    |
| Coal on hand, January 1, 1922..... tons..                          | 164,663    | 29,899  | 194,562   |
| Coal on hand, December 1, 1921..... tons..                         | 152,187    | 32,626  | 184,813   |
| Coal received during December..... tons..                          | 37,525     | 9,678   | 47,203    |
| Transferred to United States Navy coal account..... tons..         |            | 12,038  | 12,038    |
| United States Navy coal account.                                   |            |         |           |
| Issued to United States Navy, including vessels..... tons..        | 1,109      | 962     | 2,071     |
| Coal on hand, January 1, 1922..... tons..                          | 63,812     | 18,558  | 82,370    |
| Coal on hand, December 1, 1921..... tons..                         | 71,127     | 7,482   | 78,609    |
| Received during December, 1921..... tons..                         |            | 12,038  | 12,038    |
| Transferred to Panama Railroad..... tons..                         | 6,206      |         | 6,206     |
| Fuel oil issues:                                                   |            |         |           |
| Panama Canal departments..... bbls..                               | 4,959      | 18,837  | 23,796    |
| Panama Railroad..... bbls..                                        | 3,502      |         | 3,502     |
| Army and Navy..... bbls..                                          | 391        | 524     | 915       |
| Total issues and sales..... bbls..                                 | 8,852      | 19,361  | 28,213    |

|                                                                     | Cristobal. | Balboa. | Total.  |
|---------------------------------------------------------------------|------------|---------|---------|
| Fuel on hand, January 1, 1922..... bbls.                            | 55,793     | 70,459  | 126,252 |
| Fuel on hand, December 1, 1921..... bbls.                           | 59,905     | 33,363  | 93,268  |
| Received during December, 1921..... bbls.                           |            | 52,256  | 52,256  |
| Diesel oil issued during December, 1921..... bbls.                  | 15         |         | 15      |
| Diesel oil on hand, January 1, 1922..... bbls.                      | 50,956     | 954     | 51,910  |
| Diesel oil on hand, December 1, 1921..... bbls.                     | 50,971     | 954     | 51,925  |
| Oil pumped for individuals and companies..... bbls.                 | 342,936    | 197,503 | 540,439 |
| Miscellaneous transfers..... bbls.                                  | 7,111      | 382     | 7,493   |
| Total oil handled..... bbls.                                        | 358,914    | 217,247 | 576,161 |
| Admeasurement certificates:                                         |            |         |         |
| United States equivalent issued or made.....                        | 20         |         | 20      |
| Measured for Panama Canal net tonnage.....                          | 11         | 6       | 17      |
| United States equivalent or Panama Canal net tonnage corrected..... | 23         | 6       | 29      |
| Services of harbor equipment:                                       |            |         |         |
| Tugs, total operating hours.....                                    | 446        | 268     | 714     |
| Launches, total operating hours.....                                | 1,195      | 1,158   | 2,353   |
| Vessels repaired at Panama Canal shops:                             |            |         |         |
| Commercial.....                                                     | 36         | 11      | 47      |
| United States Government.....                                       | 5          | 9       | 14      |
| Canal equipment.....                                                | 14         | 24      | 38      |
| Vessels dry-docked:                                                 |            |         |         |
| Commercial.....                                                     | 2          | 4       | 6       |
| Government.....                                                     | 2          |         | 2       |
| Canal equipment.....                                                | 6          | 9       | 15      |
| Clearances issued.....                                              | 165        | 140     | 305     |
| Bills of health issued.....                                         | 149        | 143     | 292     |

## ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal:

| Ships entering.                                                    | Port of Cristobal. |                   |                 | Port of Balboa. |                   |                 |
|--------------------------------------------------------------------|--------------------|-------------------|-----------------|-----------------|-------------------|-----------------|
|                                                                    | No. of ships.      | Tonnage.          |                 | No. of ships.   | Tonnage.          |                 |
|                                                                    |                    | Registered gross. | Registered net. |                 | Registered gross. | Registered net. |
| All vessels, including those transiting the Canal.....             | 301                | 1,638,327         | 1,046,918       | 262             | 1,403,403         | 904,289         |
| Vessels entering port but not transiting the Canal.....            | 52                 | 255,656           | 155,343         | 6               | 26,282            | 16,278          |
| Vessels transiting Canal and handling passengers or cargo.....     | 59                 | 306,860           | 193,915         | 59              | 303,362           | 187,224         |
| Ships clearing.                                                    |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting the Canal.....             | 307                | 1,661,574         | 1,061,563       | 263             | 1,404,391         | 906,833         |
| Vessels entering port but not transiting the Canal.....            | 57                 | 277,504           | 169,165         | 7               | 27,015            | 16,667          |
| Vessels transiting the Canal and handling passengers or cargo..... | 59                 | 301,111           | 190,303         | 59              | 302,042           | 186,995         |

## COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of December, 1921:

|                               | Ice.     | Groceries. | Cold storage. | Laundry.   | Miscellaneous. | Total.     |
|-------------------------------|----------|------------|---------------|------------|----------------|------------|
| Sales at Cristobal to—        |          |            |               |            |                |            |
| U. S. Government vessels..... | \$153.10 | \$124.82   | \$1,239.47    |            | \$137.26       | \$1,654.65 |
| Panama Railroad vessels.....  | 41.40    | 112.24     | 6,522.91      |            | 545.47         | 8,222.02   |
| Other commercial vessels..... | 1,226.03 | 4,261.97   | 16,796.35     |            | 993.65         | 23,278.00  |
| Totals, December, 1921.....   | 1,420.53 | 5,499.03   | 24,558.73     |            | 1,676.38       | 33,154.67  |
| Totals, November, 1921.....   | 1,449.64 | 5,296.31   | 21,260.75     |            | 1,528.98       | 29,535.68  |
| Totals, December, 1920.....   | 3,802.97 | 17,543.60  | 57,203.07     | \$7,467.62 | 3,990.54       | 89,007.80  |

|                             | Ice.     | Groceries. | Cold storage. | Laundry.   | Miscellaneous. | Total.      |
|-----------------------------|----------|------------|---------------|------------|----------------|-------------|
| Sales at Balboa to—         |          |            |               |            |                |             |
| U. S. Government vessels..  | \$162.66 | \$3,087.73 | \$8,447.06    |            | \$121.45       | \$11,818.90 |
| Other commercial vessels..  | 187.08   | 728.10     | 7,250.83      | \$2,319.83 | 246.49         | 8,412.50    |
| Totals, December, 1921..... | 349.74   | 3,815.83   | 15,697.89     | 2,319.83   | 367.94         | 20,231.40   |
| Totals, November, 1921..... | 365.22   | 598.34     | 6,015.29      | 2,882.26   | 198.64         | 10,059.75   |
| Totals, December, 1920..... | 1,268.44 | 6,751.81   | 26,819.56     | 734.15     | 1,966.75       | 37,540.71   |

## MOVEMENT OF PASSENGERS.

The following statements shows the number of passengers arriving and embarking at Canal ports during the month of December, 1921:

|                                      | At Cristobal. |         |        | At Balboa.   |         |        |
|--------------------------------------|---------------|---------|--------|--------------|---------|--------|
|                                      | First class.  | Others. | Total. | First class. | Others. | Total. |
| Disembarking:                        |               |         |        |              |         |        |
| From Atlantic ports.....             | 1,056         | 910     | 1,966  | 123          | 2       | 125    |
| From Pacific ports.....              | 144           | 54      | 198    | 147          | 176     | 323    |
| Total disembarking.....              | 1,200         | 964     | 2,164  | 270          | 178     | 448    |
| Embarking:                           |               |         |        |              |         |        |
| For Atlantic ports.....              | 1,056         | 964     | 2,020  | 5            |         | 5      |
| For Pacific ports.....               | 222           | 74      | 296    | 207          | 86      | 293    |
| Total embarking.....                 | 1,278         | 1,038   | 2,316  | 212          | 86      | 298    |
| Remaining on board vessels:          |               |         |        |              |         |        |
| From Atlantic to Pacific ports.....  | 804           | 1,200   | 2,004  | 830          | 1,257   | 2,087  |
| From Pacific to Atlantic ports.....  | 900           | 822     | 1,722  | 597          | 892     | 1,489  |
| From Atlantic to Atlantic ports..... | 237           | 125     | 362    |              |         |        |
| From Pacific to Pacific ports.....   |               |         |        | 38           | 152     | 190    |
| Total remaining on board.....        | 1,941         | 2,147   | 4,088  | 1,465        | 2,301   | 3,766  |
| Total passengers arriving.....       | 3,141         | 3,111   | 6,252  | 1,735        | 2,491   | 4,226  |
| Total passengers departing.....      | 3,219         | 3,185   | 6,404  | 1,668        | 2,414   | 4,082  |

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks, and the consumption of water, for lockages for the month of December, 1921, as compared with that of the preceding month and of the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                                     | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|-------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                     | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                          | 99          | 126    | 225    | 15             | 8      | 23     | 248          |
| Pedro Miguel.....                   | 102         | 130    | 232    | 19             | 18     | 37     | 269          |
| Miraflores.....                     | 102         | 122    | 224    | 17             | 15     | 32     | 256          |
| Total lockages, December, 1921..... | 303         | 378    | 681    | 51             | 41     | 92     | 773          |
| Total lockages, November, 1921..... | 291         | 365    | 656    | 44             | 37     | 81     | 737          |
| Total lockages, December, 1920..... | 336         | 413    | 749    |                |        | 39     | 788          |

## NUMBER OF VESSELS PUT THROUGH THE LOCKS.

|                                    | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                    | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                         | 105         | 140    | 245    | 36             | 25     | 61     | 306          |
| Pedro Miguel.....                  | 106         | 135    | 241    | 52             | 42     | 94     | 335          |
| Miraflores.....                    | 107         | 135    | 242    | 52             | 44     | 96     | 338          |
| Total vessels, December, 1921..... | 318         | 410    | 728    | 140            | 111    | 251    | 979          |
| Total vessels, November, 1921..... | 295         | 383    | 678    | 92             | 86     | 178    | 856          |
| Total vessels, December, 1920..... | 359         | 453    | 812    |                |        | 76     | 888          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                                  | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------------|--------|---------------|-------------|
| Army and Navy vessels.....       | 35     | 35            | 36          |
| Canal equipment.....             | 26     | 59            | 60          |
| Total noncommercial vessels..... | 61     | 94            | 96          |

The total consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                        | Gatun.                            | Pedro Miguel.                     | Miraflores.                       |
|----------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Lockages.....                          | <i>Cubic feet.</i><br>964,180,000 | <i>Cubic feet.</i><br>950,720,000 | <i>Cubic feet.</i><br>810,140,000 |
| Leakage.....                           | 20,000,000                        | 15,000,000                        | 67,000,000                        |
| Maintenance.....                       |                                   | 4,090,000                         | 7,620,000                         |
| Total consumption, December, 1921..... | 984,180,000                       | 969,810,000                       | 884,760,000                       |
| Total consumption, November, 1921..... | 869,420,000                       | 894,560,000                       | 850,440,000                       |
| Total consumption, December, 1920..... | 1,183,140,000                     | 968,970,000                       | 974,870,000                       |

## METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorologic and hydrographic conditions over the Canal Zone and vicinity during the month of December, 1921, are shown in comparative form:

| Rainfall.                                        | December,<br>1921.       | December,<br>1920.       | December—Years of record. |                          |                          |
|--------------------------------------------------|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
|                                                  |                          |                          | Maximum.                  | Minimum.                 | Mean.                    |
|                                                  | <i>Inches.</i>           | <i>Inches.</i>           | <i>Inches.</i>            | <i>Inches.</i>           | <i>Inches.</i>           |
| Total for month:                                 |                          |                          |                           |                          |                          |
| Pacific Section.....                             | 4.25                     | 1.98                     | 12.18                     | 1.06                     | 5.04                     |
| Central Section.....                             | 5.50                     | 2.54                     | 16.43                     | .71                      | 5.83                     |
| Atlantic Section.....                            | 9.00                     | 4.08                     | 39.34                     | 1.85                     | 12.02                    |
| Maximum recorded on any one day.....             | 4.12                     | 2.81                     | 10.86                     |                          |                          |
| Gatun Lake watershed.....                        | 7.81                     | 3.10                     | 26.20                     | 1.15                     | 5.05                     |
| Chagres River watershed above Alhajuela.....     | 6.96                     | 4.05                     | 37.54                     | 1.29                     | 8.88                     |
| Maximum recorded for month at any one point..... | 13.86                    | 8.02                     | 58.17                     |                          |                          |
| Minimum recorded for month at any one point..... | 2.94                     | 1.31                     |                           |                          |                          |
| <i>Hydrography.</i>                              |                          |                          |                           |                          |                          |
| Discharge of Chagres River at Alhajuela.....     | <i>C. f. s.</i><br>3,641 | <i>C. f. s.</i><br>2,180 | <i>C. f. s.</i><br>17,300 | <i>C. f. s.</i><br>1,265 | <i>C. f. s.</i><br>3,866 |
| Maximum momentary discharge for month.....       | 25,600                   | 21,200                   | 170,000                   |                          |                          |
| Gatun Lake watershed total yield.....            | 8,211                    | 4,322                    | 9,923                     | 3,005                    | 6,072                    |
| Gatun Lake watershed net yield.....              | 7,649                    | 3,698                    | 9,218                     | 2,158                    | 5,473                    |
| Draft on Gatun Lake for lockages and power.....  | 2,167                    | 2,378                    | 2,378                     | 583                      | 1,738                    |

\* This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28-29, 1909.

\* This figure represents the maximum momentary discharge on record. Occurred on December 26, 1909.

## SEISMOLOGY.

Seismic tremors were recorded on the 18th and 22d. The disturbance recorded on the morning of the 18th was at a distance of about 950 miles and gave evidence of being a severe quake at the origin, which was probably to the southwest in the Pacific. The disturbance on the evening of the 22d was a pronounced local shock which was felt by the people in general. The epicenter of the disturbance was at a distance of about 45 miles and probably to the southwest. No damage to Canal works was reported.

## ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., is shown in the following tabulation:



|                                                                                | December, 1921. | November, 1921. | December, 1920. |
|--------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| Gross output, KWH:                                                             |                 |                 |                 |
| Gatun hydroelectric station.....                                               | 4,942,900       | 4,853,900       | 6,079,700       |
| Miraflores steam plant.....                                                    | 300             | 400             | 65,200          |
| Combined gross output.....                                                     | 4,943,200       | 4,854,300       | 6,144,900       |
| Water consumption..... cubic feet.                                             | 3,883,984,374   | 3,779,696,146   | 4,377,432,000   |
| Oil consumption..... barrels.                                                  | 1,882           | 1,827           | 2,617           |
| Power distributed to consumers..... KWH.                                       | 4,235,893       | 4,137,872       | 5,180,701       |
| Loss of power in plant auxiliaries, transmission, and transformation..... KWH. | 707,307         | 716,428         | 934,199         |
| Per cent of loss of power to gross output.....                                 | 14.3            | 17.3            | 16.1            |

Miscellaneous electrical repairs and installations of electrical equipment were made on 11 vessels at Cristobal, and 5 vessels at Balboa during the month. There were 358 work orders issued for work to be performed by the Electrical Division during the month, as compared with 328 for November. No new construction work was performed during the month.

#### SHOP, FOUNDRY, AND DRY DOCK WORK.

The output of the Mechanical Division in patterns and castings for December, 1921, as compared with the preceding month was as follows:

|            | December, 1921. |           |         | November, 1921. |           |         |
|------------|-----------------|-----------|---------|-----------------|-----------|---------|
|            | Patterns.       | Castings. | Pounds. | Patterns.       | Castings. | Pounds. |
| Iron.....  | 2               | 175       | 8,612   | 1               | 304       | 17,456  |
| Steel..... | 1               |           |         |                 | 73        | 11,896  |
| Brass..... | 10              | 60        | 1,392   | 3               | 286       | 5,902   |

During the month miscellaneous repairs were made on 55 vessels at Cristobal and 44 vessels at the Balboa shops. Of the above vessels, 10 were placed in dry dock at Cristobal, and 13 at Balboa.

The bottom of the steamship *Quibdo* was cleaned and painted. The stern bushing was renewed, propeller was changed, shoe repaired, liner on tail shaft installed and hull was patched.

A general overhaul of the motor ship *Chiralite* was carried out.

It was intended to install new engines in the vessel, but it was found feasible to overhaul her original installation, fitting new propeller shafts and thrust blocks and make a better installation than by carrying out the proposed change. Extensive hull repairs were also performed.

The tanker *K. R. Kingsbury* was dry-docked with a full cargo of lubricating oil on board, for the purpose of renewing one of the propeller blades. This was a very large vessel and the weight of the cargo, together with its fluid nature, made the dry-docking a very unusual one and almost without precedent. Three tiers of shores were used to prevent deformation of the hull and the water was only lowered to the propeller hub. The operation was entirely successful. This vessel transited the Canal from Balboa to Cristobal on December 17 as a commercial vessel, on which transit tolls were assessed; after leaving Cristobal trouble developed and she put back to port for repairs; she made the transit of the Canal from Cristobal to Balboa where the repairs were carried out and then returned through the Canal from Balboa to Cristobal, and in accordance with Executive Order of November 17, 1921, exempting from payment of tolls vessels which make the transit from Cristobal to Balboa and return for the sole purpose of having repairs made at the Balboa dry dock, no tolls were assessed for these 2 transits; this is the first vessel which has transited the Canal for repairs only on which no tolls were assessed.

Work was started on the rebuilding of the tug *Mariner* and her conversion into an oil burner.

Dry-docking and overhaul of the Dredging Division fleet continued during the month.

The reductions which have been taking place in the Mechanical Division during the past months have brought the working force down to 30 per cent of force employed 1 year ago. Owing to changes in schedules on the Panama Railroad, a further reduction has been made in the roundhouse and car shop forces.

#### DREDGING DIVISION.

Cucaracha and Barge Repair slides showed no perceptible movement during the month. West Culebra slide showed some bank movement between stations 1774:08

and 1779.00. A total of 115,850 cubic yards of material was removed from in front of this slide during the month. No inconvenience to Canal traffic was occasioned by reason of slides during the month.

The total excavation for the month of December, 1921, including earth and rock, was 303,450 cubic yards, as follows:

| Cubic yards. | Classified as— |         | Character of work. | Stations.                                                                 | Equipment.       |
|--------------|----------------|---------|--------------------|---------------------------------------------------------------------------|------------------|
|              | Earth.         | Rock.   |                    |                                                                           |                  |
| 115,850      | 37,050         | 78,800  | Maintenance.....   | <i>Gaillard Cut, West Culebra.</i><br>1774-00 to 1795-00 C. L. and W..... | <i>Gamboa.</i>   |
| 25,000       | 10,000         | 15,000  | Maintenance.....   | <i>Pacific Entrance.</i><br>2233-00 to 2166-00 E.....                     | <i>Cascadas.</i> |
| 6,000        | .....          | 6,000   | Construction.....  | 2233-00 to 2166-00 E.....                                                 | <i>Cascadas.</i> |
|              |                |         |                    | 2075-50 to 2085-00.....                                                   |                  |
| 81,300       | 81,300         | .....   | Maintenance.....   | 2005-00 to 2100-80 C. L.<br>2240-00 to 2250-00 W.....                     | <i>No. 84.</i>   |
| 51,900       | 51,900         | .....   | Maintenance.....   | 2219-50 to 2230-60 W.....                                                 | <i>No. 86.</i>   |
|              |                |         |                    | <i>Balboa Inner Harbor.</i>                                               |                  |
| 10,800       | 5,800          | 5,000   | Maintenance.....   |                                                                           | <i>Cascadas.</i> |
| 1,200        | 1,200          | .....   | Maintenance.....   |                                                                           | <i>No. 84.</i>   |
| 11,400       | 11,400         | .....   | Maintenance.....   |                                                                           | <i>No. 86.</i>   |
| 303,450      | 198,650        | 104,800 |                    |                                                                           |                  |

The material excavated at the various stations was disposed of as follows:

|                                      | Cubic yards. |
|--------------------------------------|--------------|
| Dumped north of Gamboa.....          | 115,850      |
| Dumped on San Juan fill.....         | 64,500       |
| Dumped on flats east of Canal.....   | 46,500       |
| Dumped on flats west of Canal.....   | 34,800       |
| Dumped at sea, Pacific entrance..... | 41,800       |
| Total.....                           | 303,450      |

#### MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations and of the filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form:

|                                    | December,<br>1921. | November,<br>1921. | December,<br>1920. |
|------------------------------------|--------------------|--------------------|--------------------|
|                                    | <i>Gallons.</i>    | <i>Gallons.</i>    | <i>Gallons.</i>    |
| Pumping stations.....              | 663,173,000        | 648,258,750        | 826,642,025        |
| Filtration plants.....             | 391,375,000        | 382,858,000        | 506,947,000        |
| Water consumed by Panama City..... | 90,888,000         | 93,862,000         | 92,764,000         |
| Water consumed by Colon.....       | 42,337,000         | 48,221,250         | 81,350,350         |
| Sales of water to vessels.....     | 10,993,100         | 10,220,274         | 15,772,165         |

Construction work, as itemized herein, was under progress during the month, with completion on November 30 and December 31, as shown:

|                                                                    | Per cent completed. |          |
|--------------------------------------------------------------------|---------------------|----------|
|                                                                    | Nov. 30.            | Dec. 31. |
| Fill, France Field.....                                            | .....               | 99½      |
| Grading of Silver City, Mount Hope.....                            | 90                  | 92       |
| Construction of landing field at Naval Air Station, Coco Solo..... | .....               | 2        |
| Construction of new concrete sea wall, Santo Tomas Hospital.....   | 97                  | 98       |
| Extension of roads, New Santo Tomas Hospital.....                  | 30                  | 60       |
| Foundation of statue of Balboa.....                                | 79                  | 79       |
| Extension of sea wall, New Santo Tomas Hospital.....               | 35                  | 55       |
| Installation of electric duct line, New Santo Tomas Hospital.....  | 30                  | 60       |

#### OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                             | December 31, 1921. |        |           | Total occupants. |                 |                 |
|-----------------------------|--------------------|--------|-----------|------------------|-----------------|-----------------|
|                             | Men.               | Women. | Children. | December, 1921.  | November, 1921. | December, 1920. |
| Americans.....              | 2,468              | 1,986  | 2,146     | 6,600            | 7,081           | 8,400           |
| Europeans.....              | 130                | 40     | 90        | 260              | 275             | 277             |
| West Indians.....           | 4,774              | 2,503  | 5,446     | 12,723           | 12,711          | 11,182          |
| Totals, December, 1921..... | 7,372              | 4,529  | 7,682     | 19,583           | .....           | .....           |
| Totals, November, 1921..... | 7,612              | 4,658  | 7,797     | .....            | 20,067          | .....           |
| Totals, December, 1920..... | 8,459              | 4,415  | 6,985     | .....            | .....           | 19,859          |

## WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of December 21, 1921, by departments, together with a comparison of the working force for the preceding month and that of December, 1920:

|                                      | Employees as of December 21, 1921. |         | Total employees. |                 |                 |
|--------------------------------------|------------------------------------|---------|------------------|-----------------|-----------------|
|                                      | Gold.                              | Silver. | December, 1921.  | November, 1921. | December, 1920. |
| Operation and Maintenance:           |                                    |         |                  |                 |                 |
| Office.....                          | 29                                 | 35      | 64               | 62              | 66              |
| Electrical.....                      | 151                                | 153     | 304              | 315             | 471             |
| Municipal Engineering.....           | 80                                 | 477     | 557              | 614             | 998             |
| Lock Operation.....                  | 192                                | 685     | 877              | 727             | 812             |
| Dredging.....                        | 135                                | 646     | 781              | 873             | 1,321           |
| Mechanical.....                      | 390                                | 605     | 995              | 1,219           | 2,880           |
| Marine.....                          | 163                                | 360     | 523              | 534             | 718             |
| Fortifications.....                  | 40                                 | 200     | 240              | 222             | 526             |
| Totals.....                          | 1,180                              | 3,161   | 4,341            | 4,566           | 7,792           |
| Supply Department:                   |                                    |         |                  |                 |                 |
| Quartermaster.....                   | 166                                | 1,077   | 1,243            | 1,237           | 2,536           |
| Subsistence.....                     | 19                                 | 225     | 244              | 251             | 405             |
| Commissary.....                      | 180                                | 908     | 1,088            | 1,113           | 1,746           |
| Cattle Industry—Plantations.....     | 12                                 | 167     | 179              | 180             | 371             |
| Hotel Washington.....                | 8                                  | 82      | 90               | 91              | 100             |
| Totals.....                          | 385                                | 2,459   | 2,844            | 2,872           | 5,158           |
| Accounting Department.....           | 192                                | 7       | 199              | 199             | 257             |
| Health Department.....               | 218                                | 731     | 949              | 966             | 1,070           |
| Executive Department.....            | 511                                | 245     | 756              | 779             | 829             |
| Totals.....                          | 921                                | 983     | 1,904            | 1,944           | 2,156           |
| Panama Railroad:                     |                                    |         |                  |                 |                 |
| Superintendent.....                  | 45                                 | 240     | 285              | 321             | 576             |
| Transportation.....                  | 74                                 | 105     | 179              | 181             | 302             |
| Receiving and Forwarding Agency..... | 65                                 | 790     | 855              | 891             | 1,569           |
| Coaling stations.....                | 89                                 | 430     | 519              | 473             | 1,196           |
| Totals.....                          | 273                                | 1,565   | 1,838            | 1,866           | 3,643           |
| Grand totals, December, 1921.....    | 2,759                              | 8,168   | 10,927           | .....           | .....           |
| Grand totals, November, 1921.....    | 2,906                              | 8,342   | .....            | 11,248          | .....           |
| Grand totals, December, 1920.....    | 4,266                              | 14,483  | .....            | .....           | 18,749          |

\* Includes 643 employees of former Building Division.

## SCHOOLS.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone, for the month of December, 1921:

|                                      | White.  | Colored. | Total. |
|--------------------------------------|---------|----------|--------|
| Gross enrollment.....                | 1,876   | 1,538    | 3,414  |
| Net enrollment.....                  | 1,824   | 1,509    | 3,333  |
| Average daily attendance.....        | 1,606.1 | 1,166.9  | 2,773  |
| Pupils neither absent nor tardy..... | 930     | 412      | 1,342  |
| Number of cases of tardiness.....    | 261     | 106      | 367    |
| Number of teachers.....              | 78      | 32       | 110    |

## VITAL STATISTICS.

A total of 192 deaths occurred during the month of December, 1921, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 18.62 per thousand. The 3 leading causes of death were tuberculosis, pneumonia, and diarrhea and enteritis; these 3 diseases caused 49 per cent of all deaths from disease. There were 4 deaths from malaria, 1 from dysentery, and 1 from influenza. Of the total deaths, 83, or 43 per cent, occurred among children under 5 years of age. There were 15 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 251 live births reported during the month, and 20 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 35.95 per thousand population. Deaths among children under 1 year of age numbered 57, giving an infant mortality rate, based on the number of births reported for December, of 162.39 per thousand live births.

Eighty-nine cases of malaria were reported during the month, of which 20 were employees and 69 were nonemployees. These malarial cases originated as follows: Panama, 5; in Colon, 2; in the Canal Zone, 59; and outside of the Canal Zone, 23.

Among other diseases reported during the month were 17 cases of measles, 3 of smallpox, 7 of scarlet fever, 5 of diphtheria, 31 of pneumonia and 1 of beriberi.

## RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, and cash sales from stock, are shown below in comparative form:

|                                                                          | December,<br>1921. | November,<br>1921. | December,<br>1920. |
|--------------------------------------------------------------------------|--------------------|--------------------|--------------------|
| Materials received on United States requisitions, chargeable as follows: |                    |                    |                    |
| Operation and Maintenance .....                                          | \$111,827.15       | \$41,683.19        | \$702,316.63       |
| Construction and equipment .....                                         | 787.00             |                    | 14,256.30          |
| Miscellaneous .....                                                      | 4,925.88           | 3,866.24           | 18,440.92          |
| Totals .....                                                             | 117,540.03         | 45,549.43          | 735,013.85         |
| Cash sales on the Isthmus:                                               |                    |                    |                    |
| Stock .....                                                              | 26,728.27          | 20,416.26          | 34,435.07          |
| Fuel oil (including sales to ships) .....                                | 25.97              | 818.65             | 105,205.82         |
| Scrap .....                                                              | 923.41             | 617.57             | 1,620.11           |
| Obsolete and second hand material .....                                  | 2,857.30           | 1,964.37           | 1,009.45           |
| Totals .....                                                             | 30,534.95          | 23,816.85          | 142,270.45         |
| Sales to steamships from storehouses:                                    |                    |                    |                    |
| Miscellaneous stock items .....                                          | 6,094.19           | 5,497.93           | 17,148.83          |
| Fuel oil .....                                                           | 25.97              | 776.15             | 73,409.59          |
| Totals .....                                                             | 6,120.16           | 6,274.08           | 90,648.42          |

## FINANCIAL RECEIPTS AND EXPENDITURES.

|                                                                      | December,<br>1921. | November,<br>1921. | December,<br>1920. |
|----------------------------------------------------------------------|--------------------|--------------------|--------------------|
| Cash balance available for expenditure in Canal appropriations ..... | \$11,866,501.01    | \$12,255,599.42    | \$14,863,922.58    |
| Payments made from appropriations:                                   |                    |                    |                    |
| By Paymaster on the Isthmus .....                                    | 955,330.79         | 1,024,183.32       | 1,511,443.46       |
| By Disbursing Clerk, Washington .....                                | 171,583.21         | 204,593.51         | 983,635.92         |
| To Panama Railroad (for commissary books) .....                      | 187,222.98         | 200,700.36         | 353,041.84         |
| Collections on the Isthmus:                                          |                    |                    |                    |
| Repaid to appropriations .....                                       | 535,261.14         | 690,179.71         | 887,022.72         |
| Commissary and other trust funds .....                               | 188,742.61         | 202,245.56         | 354,644.48         |
| Tolls .....                                                          | 1,003,604.42       | 923,061.65         | 1,007,875.07       |
| Sales of water .....                                                 |                    | 3,834.15           | 3,199.35           |
| Postal receipts .....                                                | 13,905.80          | 9,365.99           | 14,113.93          |
| Licenses, taxes, court fees, fines, etc. ....                        | 8,894.07           | 3,466.97           | 7,410.39           |
| Sale of construction material and equipment .....                    |                    |                    | 7.70               |
| Total collections on Isthmus .....                                   | 1,750,408.04       | 1,832,154.03       | 2,274,273.65       |
| Collections by Disbursing Clerk, Washington, D. C. ....              | 13,941.69          | 154,010.82         | 40,540.52          |
| Deposits made with Assistant Treasurer, United States .....          | 64,750.00          | 73,700.00          | 86,000.00          |



## FINANCIAL RECEIPTS AND EXPENDITURES—continued.

|                                                                                     | December,<br>1921. | November<br>1921. | December,<br>1920. |
|-------------------------------------------------------------------------------------|--------------------|-------------------|--------------------|
| Canal Zone and miscellaneous funds:                                                 |                    |                   |                    |
| Receipts—                                                                           |                    |                   |                    |
| Money order funds                                                                   | \$114,179.68       | \$127,412.13      | \$163,329.82       |
| Clubhouse funds                                                                     | 31,026.27          | 28,084.14         | 32,833.35          |
| Trust funds                                                                         | 68.88              | 256.59            | 2,129.60           |
| Interest                                                                            | 1,348.08           | 1,494.27          | 799.25             |
| Total receipts                                                                      | 146,622.91         | 153,247.13        | 199,092.02         |
| Disbursements:                                                                      |                    |                   |                    |
| Money order funds                                                                   | 81,750.00          | 164,072.40        | 21,950.00          |
| Clubhouse funds                                                                     | 28,069.94          | 30,228.60         | 40,160.31          |
| Trust funds                                                                         | 592.54             |                   | 1,151.32           |
| Interest                                                                            | 603.51             | 706.71            | 604.42             |
| Postal savings                                                                      |                    |                   | 1.00               |
| Total disbursements                                                                 | 111,015.99         | 195,007.71        | 63,867.04          |
| Pay roll on the Isthmus:                                                            |                    |                   |                    |
| Maintenance and Operation                                                           | 673,003.11         | 668,937.59        | 1,156,436.91       |
| Sanitation                                                                          | 72,390.29          | 72,837.42         | 82,354.76          |
| Civil Government                                                                    | 67,916.07          | 67,512.72         | 66,325.38          |
| Totals                                                                              | 813,309.47         | 809,287.73        | 1,305,117.05       |
| Requisitions for purchases in the United States                                     | 42,052.73          | 32,881.37         | 199,640.18         |
| Sale of commissary supplies:                                                        |                    |                   |                    |
| To The Panama Canal                                                                 | 96,423.00          | 81,989.73         | 144,549.04         |
| To steamships, other than those of the United States Government and Panama Railroad | 32,754.95          | 28,929.44         | 75,895.60          |
| To the Panama Railroad, including its steamships and Hotel Washington               | 21,396.32          | 20,769.09         | 39,393.41          |
| To the United States Government including the Army and Navy                         | 100,030.12         | 90,652.00         | 138,524.08         |
| To individuals and companies through charge accounts                                | 31,011.02          | 24,274.56         | 31,243.02          |
| To individuals purchasing coupons                                                   | 403,042.47         | 319,944.39        | 677,518.79         |
| Totals                                                                              | 684,657.88         | 566,559.21        | 1,107,123.94       |

Respectfully,

M. L. WALKER,  
Acting Governor.

**Shipment of Canadian Wheat Through the Panama Canal.**

According to an Ottawa correspondent of the *Nautical Gazette*, the expectation that Vancouver will in time become a great grain shipping port may soon be realized. Business interests in Vancouver have been endeavoring to work up this trade, and have predicted that the Pacific ports will eventually become the export outlets for all Canadian grain from Alberta westward. As the present season advanced the prospects for a big business this winter continued to improve. It was noted in Calgary recently that two-thirds of the cars of wheat inspected there were destined for the Pacific coast.

The first cargo of Canadian wheat to pass through the Panama Canal was carried by the steamer *Buenos Aires* of the Johnson Line, which made the transit on February 9, 1921. The route via Vancouver and Panama will always afford an outlet for wheat from western Canada which can not be moved to the Atlantic seaboard before the close of navigation on the Great Lakes and the St. Lawrence River. This winter trade now seems assured, and it is quite possible that the new route may compete with the old for fall as well as winter shipments.

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, December, 1921

| FROM—                                        | NORTH AMERICA.             |                            |              |                          |              |                  |              |         |                          |                | EUROPE.        |              |               |               |              |               |               |                      |                |                                 | Grand totals. | Per cent of total cargo. |
|----------------------------------------------|----------------------------|----------------------------|--------------|--------------------------|--------------|------------------|--------------|---------|--------------------------|----------------|----------------|--------------|---------------|---------------|--------------|---------------|---------------|----------------------|----------------|---------------------------------|---------------|--------------------------|
|                                              | UNITED STATES.             |                            |              |                          |              | NORTH AMERICA.   |              |         |                          |                | EUROPE.        |              |               |               |              |               |               |                      |                |                                 |               |                          |
|                                              | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports.  | Total, United<br>States. | West Indies. | Cristobal, C. Z. | Mexico.      | Canada. | Total, North<br>America. | British Isles. | Belgium.       | Denmark.     | France.       | Germany.      | Holland.     | Italy.        | Norway.       | Europe. <sup>2</sup> | Total, Europe. | East coast of<br>South America. |               |                          |
| <b>SOUTH AMERICA:</b>                        |                            |                            |              |                          |              |                  |              |         |                          |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| Chile.....                                   | 3,886                      | 16,816                     | 2,121        | 22,823                   |              | 31               |              |         | 22,854                   | 9,550          | 50             | 3,000        | 17,976        | 2,252         | 4,462        | 10,231        |               | 11,205               | 58,726         | 14                              |               |                          |
| Colombia.....                                |                            |                            |              | 802                      |              | 2,491            |              |         | 3,293                    |                |                |              |               |               |              |               |               |                      | 1,233          |                                 |               |                          |
| Ecuador.....                                 | 2,295                      |                            |              | 2,295                    |              | 3,599            |              |         | 5,894                    | 247            |                |              | 7             | 829           |              |               |               | 150                  |                |                                 |               |                          |
| Peru.....                                    | 2,768                      |                            |              | 2,768                    |              | 3,465            |              |         | 6,233                    | 39,057         | 1,897          | 28           |               | 136           |              |               | 4,723         | 1,339                | 47,189         |                                 |               |                          |
| West coast of South America.....             | 1,018                      |                            |              | 1,018                    |              |                  |              |         | 1,018                    | 1,918          |                |              |               | 65            |              |               |               |                      | 983            |                                 |               |                          |
| <b>Total, South America.....</b>             | <b>10,769</b>              | <b>16,816</b>              | <b>2,121</b> | <b>29,706</b>            |              | <b>9,586</b>     |              |         | <b>39,292</b>            | <b>50,772</b>  | <b>1,947</b>   | <b>3,028</b> | <b>17,983</b> | <b>3,282</b>  | <b>4,462</b> | <b>10,231</b> | <b>4,723</b>  | <b>12,694</b>        | <b>108,122</b> | <b>14</b>                       |               |                          |
| <b>NORTH AMERICA:</b>                        |                            |                            |              |                          |              |                  |              |         |                          |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| West coast of United States.....             | 89,391                     | 4,087                      | 6,527        | 100,005                  | 925          | 184              | 2,526        |         | 103,640                  | 42,317         | 1,349          | 471          | 2,083         | 3,426         | 4,354        | 7,638         | 8,896         | 32,055               | 102,619        |                                 |               |                          |
| West coast of Canada.....                    | 3,585                      |                            |              | 3,585                    |              | 2,010            |              |         | 3,585                    | 630            | 386            |              | 68            |               |              |               |               |                      | 1,031          |                                 |               |                          |
| West coast of Central America.....           |                            |                            |              |                          |              |                  |              |         | 2,010                    | 353            |                |              |               | 237           |              |               |               |                      | 590            |                                 |               |                          |
| <b>Total, North America.....</b>             | <b>92,976</b>              | <b>4,087</b>               | <b>6,527</b> | <b>103,590</b>           | <b>925</b>   | <b>2,194</b>     | <b>2,526</b> |         | <b>109,235</b>           | <b>43,300</b>  | <b>1,735</b>   | <b>471</b>   | <b>2,151</b>  | <b>3,663</b>  | <b>4,354</b> | <b>7,638</b>  | <b>8,896</b>  | <b>32,055</b>        | <b>104,293</b> |                                 |               |                          |
| <b>ASIA:</b>                                 |                            |                            |              |                          |              |                  |              |         |                          |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| China.....                                   | 10,859                     |                            |              | 10,859                   | 3,510        |                  |              |         | 14,369                   |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| Japan.....                                   | 1,720                      |                            |              | 1,720                    |              |                  |              |         | 1,720                    |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| Philippines.....                             | 11,194                     |                            |              | 11,194                   |              |                  |              |         | 11,194                   |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| Far East <sup>1</sup> .....                  | 3,195                      |                            |              | 3,195                    |              |                  |              |         | 3,195                    |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| <b>Total, Asia.....</b>                      | <b>26,968</b>              |                            |              | <b>26,968</b>            | <b>3,510</b> |                  |              |         | <b>30,478</b>            |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| <b>AUSTRALASIA:</b>                          |                            |                            |              |                          |              |                  |              |         |                          |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| Australia.....                               | 46                         |                            |              | 46                       |              |                  |              |         | 46                       | 3,636          |                |              |               |               |              |               |               |                      | 3,636          |                                 |               |                          |
| New Zealand.....                             | 1,677                      |                            |              | 1,677                    |              |                  |              |         | 1,669                    | 16,629         |                |              |               |               |              |               |               |                      | 16,629         |                                 |               |                          |
| Australasia <sup>1</sup> .....               | 2,142                      |                            |              | 2,142                    |              |                  |              |         | 3,902                    | 3,816          |                |              |               |               |              |               |               |                      | 12,716         |                                 |               |                          |
| <b>Total, Australasia.....</b>               | <b>3,865</b>               |                            |              | <b>3,865</b>             |              |                  |              |         | <b>682</b>               | <b>4,547</b>   | <b>24,081</b>  |              |               |               |              |               |               | <b>8,900</b>         | <b>32,981</b>  |                                 |               |                          |
| <b>HAWAII:</b>                               |                            |                            |              |                          |              |                  |              |         |                          |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| Hawaii.....                                  | 5,981                      |                            |              | 5,981                    |              |                  |              |         | 5,981                    |                |                |              |               |               |              |               |               |                      |                |                                 |               |                          |
| <b>Grand totals.....</b>                     | <b>140,559</b>             | <b>20,903</b>              | <b>8,648</b> | <b>170,110</b>           | <b>4,435</b> | <b>11,780</b>    | <b>2,526</b> |         | <b>682</b>               | <b>189,533</b> | <b>118,153</b> | <b>3,682</b> | <b>3,409</b>  | <b>20,134</b> | <b>6,945</b> | <b>8,816</b>  | <b>17,809</b> | <b>53,649</b>        | <b>215,396</b> | <b>14</b>                       |               |                          |
| Per cent of total cargo, December, 1921..... | 32.3                       | 4.8                        | 2.0          | 39.1                     | 1.0          | 2.7              | 0.6          |         | 43.5                     | 27.1           | 0.9            | 0.8          | 4.6           | 1.6           | 2.0          | 4.1           | 3.1           | 12.3                 | 56.5           |                                 |               |                          |
| Per cent of total cargo, November, 1921..... | 36.9                       | 0.8                        | 0.7          | 38.4                     | 1.1          | 1.8              |              |         | 41.3                     | 18.7           | 2.4            | 1.4          | 4.8           | 1.0           | 1.0          | 6.9           |               | 16.4                 | 58.6           | 0.1                             |               |                          |
| Per cent of total cargo, December, 1920..... | 25.1                       | 10.7                       | 3.3          | 39.1                     | 1.8          | 4.3              |              |         | 45.2                     | 30.3           | 6.7            | 1.9          | 3.9           | 2.7           |              |               |               | 0.5                  | 50.6           | 4.2                             |               |                          |

\* General cargo not routed so as to allow segregation between definite ports.

\* Figures represent tons of 2,240 pounds.

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, December, 1921.\*

| From—                                    | SOUTH AMERICA. |           |          |        | NORTH AMERICA.               |                      |                              |         |                                |               |         | ASIA.                |        |         |              | AUSTRALASIA. |             |            |              | Grand totals. | Per cent of total cargo. |                    |         |         |      |
|------------------------------------------|----------------|-----------|----------|--------|------------------------------|----------------------|------------------------------|---------|--------------------------------|---------------|---------|----------------------|--------|---------|--------------|--------------|-------------|------------|--------------|---------------|--------------------------|--------------------|---------|---------|------|
|                                          | Chile.         | Colombia. | Ecuador. | Peru.  | West coast of South America. | Total South America. | West coast of United States. | Canada. | West coast of Central America. | Balboa, C. Z. | Mexico. | Total North America. | China. | Japan.  | Philippines. | Far East.    | Total Asia. | Australia. | New Zealand. |               |                          | Total Australasia. | Hawaii. |         |      |
| UNITED STATES:                           |                |           |          |        |                              |                      |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         |         |      |
| North Atlantic ports                     | 818            | 826       | 1,191    | 7,526  | 2,803                        | 13,164               | 53,228                       | 205     | 52                             | 9,677         |         | 53,485               | 11,240 | 65,737  | 6,508        | 48,574       | 132,149     | 10,574     | 2,697        | 4,911         | 18,182                   | 5,007              | 221,987 | 42.9    |      |
| Atlantic terminus, Cristobal, C. Z.      |                |           |          |        |                              |                      | 106                          |         |                                |               |         | 9,783                | 3,143  | 5,824   |              | 1,820        | 10,787      |            |              |               |                          |                    | 20,570  | 4.0     |      |
| South Atlantic ports                     |                |           |          |        |                              |                      | 16,060                       |         |                                |               |         | 16,060               | 14,938 | 51,899  |              |              | 66,837      |            |              |               |                          |                    | 93,997  | 18.2    |      |
| Gulf ports                               |                |           |          |        |                              |                      |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         |         |      |
| Total, United States                     | 818            | 826       | 1,191    | 7,526  | 2,803                        | 13,164               | 69,394                       | 205     | 9,729                          |               |         | 79,328               | 29,321 | 123,460 | 6,508        | 50,394       | 209,773     | 10,574     | 2,697        | 16,011        | 29,282                   | 5,007              | 336,554 | 65.1    |      |
| East coast of Mexico.                    |                |           |          |        |                              |                      |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         |         |      |
| Atlantic terminus, Cristobal, C. Z.      |                |           |          |        |                              |                      |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         |         |      |
| West Indies.                             |                |           |          |        |                              |                      |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         |         |      |
| East coast of Canada.                    |                |           |          |        |                              |                      |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         |         |      |
| Total, North America                     | 19,388         | 1,166     | 1,216    | 7,526  | 4,756                        | 34,052               | 81,340                       | 3,725   | 4,100                          | 25,272        | 3,200   | 117,646              | 29,321 | 123,460 | 6,508        | 50,394       | 209,773     | 10,574     | 5,297        | 17,749        | 33,620                   | 5,007              | 400,098 | 77.4    |      |
| Europe:                                  |                |           |          |        |                              |                      |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         |         |      |
| Belgium                                  | 375            |           | 560      |        | 431                          | 1,366                | 4,415                        | 1,325   |                                |               |         | 3,740                |        |         |              |              |             |            |              | 400           |                          | 400                |         | 7,506   | 1.4  |
| British Isles                            | 4,841          |           |          | 3,126  | 1,870                        | 9,837                | 13,466                       | 1,740   |                                |               | 25      | 15,234               |        |         |              |              |             |            |              | 23,834        | 9,000                    | 32,834             | 6,021   | 63,926  | 12.4 |
| Denmark                                  |                |           |          |        | 3,840                        | 3,840                |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         | 3,840   | 0.7  |
| France                                   | 767            |           |          | 103    | 870                          | 870                  | 219                          |         |                                |               |         | 219                  |        |         |              |              |             |            |              |               |                          |                    |         | 1,089   | 0.2  |
| Germany                                  |                |           | 277      | 530    | 6,157                        | 8,469                | 1,336                        | 921     |                                |               |         | 2,251                |        |         |              |              |             |            |              |               |                          |                    |         | 10,720  | 2.1  |
| Holland                                  | 1,185          |           |          |        |                              |                      | 1,130                        |         |                                |               |         | 1,130                |        |         |              |              |             |            |              |               |                          |                    |         | 1,130   | 0.2  |
| Italy                                    |                |           |          |        |                              |                      | 221                          |         |                                |               |         | 221                  |        |         |              |              |             |            |              |               |                          |                    |         | 221     | 0.1  |
| Spain                                    | 28             |           |          | 11     |                              | 34                   |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         | 34      | 0.1  |
| Sweden                                   |                |           |          |        | 454                          | 454                  |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         | 454     | 0.1  |
| Europe*                                  | 461            |           | 496      | 460    | 2,004                        | 3,421                | 14,186                       | 643     | 400                            |               |         | 15,232               |        |         |              |              |             |            |              | 24,234        | 9,000                    | 33,234             | 6,021   | 18,654  | 3.6  |
| Total Europe.                            | 7,652          |           | 1,333    | 4,550  | 14,756                       | 28,291               | 34,977                       | 3,708   | 921                            | 400           | 25      | 40,027               |        |         |              |              |             |            |              | 24,234        | 9,000                    | 33,234             | 6,021   | 107,573 | 20.8 |
| East coast, South America                |                |           |          |        |                              |                      |                              |         |                                |               |         |                      |        |         |              |              |             |            |              |               |                          |                    |         |         |      |
| Grand totals                             | 27,040         | 1,405     | 2,540    | 12,076 | 19,512                       | 62,582               | 125,285                      | 7,433   | 5,021                          | 25,672        | 3,225   | 166,636              | 29,321 | 123,697 | 6,508        | 50,394       | 210,010     | 10,574     | 29,531       | 26,749        | 66,854                   | 11,028             | 517,110 | 100.0   |      |
| Per cent of total cargo, December, 1921. | 5.2            | 0.3       | 0.5      | 2.3    | 3.8                          | 12.1                 | 24.2                         | 1.4     | 1.0                            | 5.0           | 0.6     | 32.2                 | 5.7    | 23.9    | 1.3          | 9.8          | 40.7        | 2.0        | 5.7          | 5.2           | 12.9                     | 2.1                | 100.0   |         |      |
| Per cent of total cargo, November, 1921. | 2.8            | 0.2       | 0.2      | 3.8    | 2.6                          | 9.6                  | 34.6                         | 0.5     | 0.8                            | 2.5           |         | 38.2                 | 6.5    | 17.7    | 0.9          | 6.8          | 31.9        | 1.3        | 11.1         | 5.8           | 18.2                     | 2.1                | 100.0   |         |      |
| Per cent of total cargo, December, 1920. | 35.7           | 0.3       | 0.2      | 3.8    | 4.8                          | 44.8                 | 12.1                         | 0.1     | 1.2                            |               |         | 17.6                 | 5.9    | 6.5     | 2.9          | 8.6          | 24.1        |            | 7.5          | 6.0           | 13.5                     |                    |         |         |      |

\* General cargo not routed so as to allow segregation between definite ports.

\* Figures represent tons of 2,240 pounds.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, January 28, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line. | Length. | Beam. | Salt draft. | From—      | For—           | Cargo.             |        | Panama Canal tonnage. |       |
|----------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-------|---------|-------|-------------|------------|----------------|--------------------|--------|-----------------------|-------|
|                      | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |       |         |       |             |            |                | Nature.            | Tons.  | Gross.                | Net.  |
| Races.               | 22               | 11    | 28             | 23    | 13                 | 15    | 23               | 11    | 28           | 24    | 20      | 01    |             |            |                | General            | 3,200  | 4,971                 | 3,486 |
| Steel Navigator      | 22               | 6     | 10             | 22    | 13                 | 10    | 22               | 19    | 10           | 22    | 21      | 40    |             | Hamburg    | Coronel        | General            | 8,530  | 7,634                 | 5,558 |
| Robin Gray           | 22               | 6     | 10             | 22    | 13                 | 10    | 22               | 20    | 30           | 22    | 21      | 40    |             | New York   | Vancouver      | General            | 7,046  | 7,472                 | 5,631 |
| City of Corinth      | 22               | 12    | 25             | 23    | 6                  | 48    | 23               | 14    | 24           | 23    | 15      | 36    |             | Balt more. | Honolulu       | General            | 6,180  | 7,103                 | 5,338 |
| Frederick Luckenbach | 22               | 9     | 35             | 23    | 11                 | 10    | 23               | 18    | 45           | 23    | 19      | 50    |             | Cardiff    | Plymouth, N.Z. | Coal               |        |                       |       |
| Ensbach              | 23               | 9     | 30             | 23    | 13                 | 15    | 23               | 21    | 18           | 24    | 20      | 01    |             |            |                | General            | 3,470  | 2,987                 | 2,056 |
| Falls of Clyde       | 23               | 17    | 11             | 23    | 17                 | 34    | 24               | 11    | 36           |       |         |       |             | Mob le.    | Los Angeles    | Oil, pipe fittings | 2,523  | 1,864                 | 1,669 |
| Columbia             | 22               | 10    | 08             | 24    | 6                  | 05    | 24               | 12    | 57           | 24    | 21      | 34    |             | Tampico    | Bahoa          | General            | 2,302  | 6,015                 | 4,251 |
| Yorba Linda          | 23               | 16    | 59             | 24    | 7                  | 05    | 24               | 14    | 54           | 24    | 16      | 05    |             | Baltimore  | San Francisco  | General            | 9,400  | 7,424                 | 5,077 |
| Alberto              | 24               | 6     | 30             | 24    | 10                 | 56    | 24               | 18    | 40           | 23    | 12      | 55    |             | Tampico    | Tocopilla      | Fuel oil           |        |                       |       |
| Kewport              | 18               | 14    | 18             | 25    | 6                  | 26    | 25               | 13    | 40           | 25    | 18      | 06    |             | London     | Talara         | Ballast            | 8,491  | 6,096                 |       |
| Wheaton              | 24               | 14    | 45             | 25    | 7                  | 09    | 25               | 15    | 25           | 28    | 20      | 48    |             | Cristobal  | San Francisco  | General            | 2,214  | 3,173                 | 2,163 |
| Calcutta             | 24               | 11    | 23             | 25    | 8                  | 18    | 25               | 16    | 19           | 25    | 12      | 03    |             | New York   | Honolulu       | Army supplies      | 5,981  | 7,050                 | 4,840 |
| Australia            | 25               | 10    | 12             | 25    | 10                 | 30    | 25               | 17    | 48           | 25    | 18      | 56    |             | Bermuda    | Bahoa          | General            | (5)    | (5)                   | (5)   |
| City of Hankow       | 24               | 22    | 28             | 25    | 11                 | 19    | 25               | 19    | 17           | 25    | 21      | 48    |             | London     | Brisbane       | General            | 750    | 4,809                 | 3,426 |
| Santa Teresa         | 24               | 23    | 18             | 25    | 12                 | 25    | 25               | 19    | 53           | 25    | 21      | 48    |             | New York   | Auckland       | General            | 10,000 | 9,051                 | 6,835 |
| Aysen                | 20               | 16    | 28             | 26    | 6                  | 16    | 26               | 13    | 50           | 26    | 14      | 40    |             | New York   | Talcahuano     | General            | 2,313  | 5,726                 | 4,086 |
| Algonia              | 17               | 17    | 16             | 26    | 6                  | 16    | 26               | 13    | 50           | 26    | 14      | 40    |             | Cristobal  | Valparaiso     | General            | 621    | 4,535                 | 3,068 |
| Barrol               | 23               | 17    | 50             | 26    | 7                  | 07    | 26               | 13    | 50           | 26    | 15      | 20    |             | Cristobal  | San Diego      | Sulphur            | 4,625  | 4,714                 | 3,401 |
| Lumpoc               | 26               | 5     | 40             | 26    | 8                  | 15    | 26               | 19    | 26           | 17    | 35      |       |             | Texas City | Lyttleton      | Fuel oil           | 9,600  | 7,496                 | 5,311 |
| Elkton               | 26               | 8     | 40             | 26    | 9                  | 03    | 26               | 17    | 25           | 27    | 12      | 30    |             | Tampico    | Tocopilla      | General            | 8,200  | 6,929                 | 5,216 |
| Manavi               | 20               | 19    | 00             | 26    | 11                 | 25    | 26               | 18    | 38           | 26    | 20      | 10    |             | New York   | Yokohama       | General            | 323    | 1,357                 | 884   |
| Chapais              | 25               | 22    | 40             | 26    | 11                 | 25    | 26               | 18    | 23           | 28    | 1       | 40    |             | Cristobal  | Guayaquil      | General            | 125    | 1,488                 | 929   |
| Hudson               | 25               | 14    | 50             | 26    | 12                 | 17    | 26               | 19    | 30           | 26    | 20      | 25    |             | Portsmouth | Salina Cruz    | General            | 175    | 5,980                 | 4,409 |
| Willbilo             | 27               | 17    | 41             | 28    | 6                  | 30    | 28               | 13    | 50           | 28    | 14      | 45    |             | Antwerp    | Talcahuano     | General            | 6,540  | 7,983                 | 5,882 |
| Hualtaga             | 22               | 19    | 48             | 28    | 8                  | 19    | 28               | 15    | 14           | 28    | 23      | 05    |             | New York   | Tacoma         | General            | 183    | 4,514                 | 2,386 |
| Athenae              | 27               | 23    | 19             | 28    | 9                  | 35    | 28               | 16    | 42           | 28    | 7       | 40    |             | Cristobal  | Callao         | General            | 4,041  | 12,896                | 9,571 |
| Puchoco              | 28               | 2     | 48             | 28    | 11                 | 10    | 28               | 18    | 09           | 28    | 19      | 32    |             | London     | Wellington     | Coal and general   | 2,795  | 2,630                 | 1,507 |
| Steel Exporter       | 28               | 9     | 33             | 28    | 13                 | 26    | 28               | 20    | 09           | 28    | 21      | 45    |             | Barry      | Valparaiso     | General            | 8,400  | 7,539                 | 5,448 |
|                      |                  |       |                |       |                    |       |                  |       |              |       |         |       |             | Baltimore  | Seattle        | General            |        |                       |       |

s 4,600 tons displacement.

\* Tug, towing barge No. 460.

s Cruiser.

s Transport.

s Schooner.



THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|    |                  |     |    |    |    |    |    |    |    |    |    |    |    |    |          |                                  |     |    |    |    |    |               |               |                 |         |       |       |  |
|----|------------------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----------|----------------------------------|-----|----|----|----|----|---------------|---------------|-----------------|---------|-------|-------|--|
| 22 | Brush            | ... | 22 | 10 | 25 | 22 | 11 | 03 | 22 | 18 | 09 | 22 | 19 | 55 | American | N. Atl. & Western S. S. Co       | 390 | 54 | 2  | 23 | 0  | Vancover      | New York      | Lumber, general | 4,200   | 6,161 | 4,424 |  |
| 22 | Hualaga          | ... | 22 | 10 | 50 | 22 | 12 | 47 | 22 | 19 | 48 | 28 | 8  | 19 | Peruvian | Peruvian Line                    | 360 | 44 | 7  | 22 | 0  | Callao        | Cristobal     | (*)             | 2,066   | 4,514 | 2,386 |  |
| 22 | Canadian         | ... | 22 | 17 | 30 | 23 | 6  | 57 | 15 | 23 | 17 | 35 | 23 | 30 | British  | Canadian Government              | 399 | 4  | 52 | 3  | 16 | 0             | New York      | General         | 2,000   | 5,808 | 4,051 |  |
| 22 | Mariner          | ... | 22 | 7  | 00 | 23 | 7  | 59 | 23 | 16 | 12 | 23 | 22 | 30 | British  | Pacific Steam Navigation Co.     | 450 | 3  | 57 | 25 | 0  | Melbourne     | New York      | General         | 4,402   | 9,171 | 6,241 |  |
| 22 | Ebro             | ... | 23 | 9  | 00 | 23 | 9  | 45 | 20 | 17 | 40 | 24 | 9  | 27 | British  | Erie Basin Towing & Hoisting Co. | 380 | 3  | 53 | 1  | 22 | 0             | Portland      | Galveston       | 4,000   | 5,057 | 4,247 |  |
| 22 | Shinko Maru      | ... | 23 | 8  | 00 | 23 | 10 | 46 | 23 | 18 | 58 | 23 | 21 | 59 | American | Osaka Shosen Kaisha              | 425 | 5  | 53 | 6  | 22 | 0             | New York      | General         | 6,895   | 8,923 | 5,304 |  |
| 22 | Edward           | ... | 23 | 17 | 00 | 24 | 6  | 48 | 24 | 13 | 55 | 24 | 13 | 55 | American | Luckenbach Line                  | 436 | 6  | 57 | 2  | 22 | 0             | New York      | General         | 3,600   | 8,543 | 6,427 |  |
| 23 | Lucenbach        | ... | 23 | 19 | 30 | 24 | 7  | 52 | 24 | 15 | 05 | 26 | 16 | 12 | British  | British Government               | 446 | 7  | 41 | 6  | 16 | 0             | Bermuda       |                 |         |       |       |  |
| 23 | H. M. S. Can-    | ... | 24 | 13 | 25 | 24 | 14 | 02 | 24 | 20 | 38 | 24 | 20 | 38 | American | United States Steel Products Co  | 424 | 2  | 56 | 2  | 24 | 0             | Port Culebra  |                 |         |       |       |  |
| 23 | Steel Ranger     | ... | 24 | 14 | 05 | 24 | 14 | 38 | 24 | 22 | 15 | 29 | 9  | 25 | American | United States Navy               | 304 | 40 | 8  | 16 | 6  | 0             | Honolulu      | Philadelphia    | 7,950   | 7,539 | 5,448 |  |
| 23 | U. S. S. Panther | ... | 24 | 13 | 25 | 24 | 14 | 38 | 24 | 22 | 15 | 29 | 9  | 25 | American | Royal Netherlands W. I. Mail     | 369 | 9  | 50 | 2  | 26 | 3             | San Diego     | Philadelphia    |         |       |       |  |
| 23 | Daft             | ... | 19 | 20 | 20 | 25 | 6  | 45 | 25 | 15 | 15 | 25 | 15 | 15 | Dutch    | Nippon Yusen Kaisha              | 420 | 50 | 2  | 25 | 3  | Valparaiso    | Amsterdam     | 6,815           | 5,862   | 4,393 |       |  |
| 23 | Delagoa Maru     | ... | 25 | 14 | 10 | 26 | 6  | 46 | 26 | 15 | 04 | 26 | 15 | 04 | Japanese | Kokusa Kisen Kaisha              | 385 | 0  | 51 | 24 | 0  | Manila, P. I. | New York      | General         | 7,950   | 7,249 | 5,171 |  |
| 23 | England Maru     | ... | 27 | 8  | 05 | 27 | 9  | 11 | 27 | 17 | 20 | 27 | 20 | 45 | American | Kokusa Kisen Kaisha              | 385 | 0  | 51 | 24 | 0  | Portland, Ore | Norfolk       | Wheat           | 7,476   | 5,924 | 4,392 |  |
| 23 | Alcora           | ... | 26 | 19 | 50 | 27 | 9  | 49 | 27 | 17 | 17 | 27 | 17 | 17 | American | United States Government         | 150 | 0  | 34 | 0  | 0  | High seas     | Cristobal     |                 |         |       |       |  |
| 23 | Alcora           | ... | 27 | 21 | 00 | 28 | 8  | 14 | 28 | 16 | 24 | 28 | 16 | 24 | Danish   | United States Government         | 316 | 45 | 2  | 16 | 6  | Iquique       | Freeport, Tex |                 |         |       |       |  |
| 23 | Korsbolla        | ... | 28 | 2  | 30 | 28 | 8  | 23 | 28 | 17 | 50 | 28 | 17 | 50 | Danish   | Rederiaktieselskabet Ljmb        | 390 | 0  | 54 | 5  | 25 | 0             | New Orleans   | Ballast         | 7,500   |       |       |  |
| 23 | Korsbolla        | ... | 28 | 2  | 30 | 28 | 8  | 23 | 28 | 17 | 50 | 28 | 17 | 50 | Danish   | Wessel Drval & Co. (S. B.)       | 390 | 0  | 44 | 2  | 10 | 0             | Caleta Colosa | New Orleans     | Ballast | 7,500 |       |  |

<sup>6</sup> Tug. <sup>7</sup> For orders. <sup>8</sup> Copper, cotton, hides, and cacao.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

\*ARRIVALS.

| Date.    | Vessel.           | Line.                           | From—                               | Date.    | Vessel.                  | Line.                           | For—                                |
|----------|-------------------|---------------------------------|-------------------------------------|----------|--------------------------|---------------------------------|-------------------------------------|
| Jan. 17. | Ansaldo VIII.     | Italian Line.                   | High seas.                          | Jan. 22. | Crijnsen.                | Royal Netherlands W. I. Mail.   | Puerto Colombia.                    |
| Jan. 22. | Atenas.           | United Fruit Co.                | New Orleans via Habana.             | Jan. 22. | Atenas.                  | United Fruit Co.                | Bocas del Toro.                     |
| Jan. 22. | Caribbean.        | Panama Railroad Steamship Line. | Cartagena.                          | Jan. 22. | Puerto Rico.             | French Line.                    | Puerto Colombia.                    |
| Jan. 23. | Hercdia.          | United Fruit Co.                | New Orleans.                        | Jan. 24. | Ansaldo VIII.            | Italian Line.                   | Genoa.                              |
| Jan. 24. | John Worthington. | Standard Oil Co.                | Tampico.                            | Jan. 25. | Caribbean.               | Panama Railroad Steamship Line. | Cartagena.                          |
| Jan. 25. | Santa Marta.      | United Fruit Co.                | New York via Kingston.              | Jan. 25. | Hercdia.                 | United Fruit Co.                | New Orleans via Tela and Habana.    |
| Jan. 25. | Sixaola.          | United Fruit Co.                | Colombian ports.                    | Jan. 26. | John Worthington.        | Standard Oil Co.                | Mata Redondo.                       |
| Jan. 26. | St. Mihiel.       | United States Army.             | New York.                           | Jan. 26. | Sixaola.                 | United Fruit Co.                | New York and Kingston.              |
| Jan. 26. | Atenas.           | United Fruit Co.                | Bocas del Toro.                     | Jan. 26. | Santa Marta.             | United Fruit Co.                | New York via Colombia and Jamaica.  |
| Jan. 27. | Ulua.             | United Fruit Co.                | New Orleans via Habana and Jamaica. | Jan. 26. | Atenas.                  | United Fruit Co.                | New Orleans.                        |
| Jan. 28. | Megantic.         | White Star Line.                | Kingston.                           | Jan. 26. | Alliance.                | Panama Railroad Steamship Line. | New York via Haiti.                 |
| Jan. 28. | San Bruno.        | United Fruit Co.                | Port Limon.                         | Jan. 26. | Bushnell and submarines. | United States Navy.             | Guantanamo, Cuba.                   |
| Jan. 28. |                   |                                 |                                     | Jan. 28. | St. Mihiel.              | United States Army.             | New York.                           |
| Jan. 28. |                   |                                 |                                     | Jan. 28. | San Bruno.               | United Fruit Co.                | Boston.                             |
| Jan. 28. |                   |                                 |                                     | Jan. 28. | Ulua.                    | United Fruit Co.                | New York via Port Limon and Habana. |

## \*DEPARTURES.

| Date.           | Vessel.           | Line.                           | From—                            | Date.    | Vessel.                  | Line.                           | For—                                |
|-----------------|-------------------|---------------------------------|----------------------------------|----------|--------------------------|---------------------------------|-------------------------------------|
| Jan. 17.        | Ansaldo VIII.     | Italian Line.                   | High seas.                       | Jan. 22. | Crijnsen.                | Royal Netherlands W. I. Mail.   | Puerto Colombia.                    |
| Jan. 22.        | Atenas.           | United Fruit Co.                | New Orleans via Habana.          | Jan. 22. | Atenas.                  | United Fruit Co.                | Bocas del Toro.                     |
| Jan. 22.        | Caribbean.        | Panama Railroad Steamship Line. | Cartagena                        | Jan. 22. | French Line.             | French Line.                    | Puerto Colombia.                    |
| Jan. 23.        | Hercdia.          | United Fruit Co.                | New Orleans.                     | Jan. 24. | Ansaldo VIII.            | Italian Line.                   | Genoa.                              |
| Jan. 24.        | John Worthington. | Standard Oil Co.                | Tampico.                         | Jan. 25. | Caribbean.               | Panama Railroad Steamship Line. | Cartagena.                          |
| Jan. 25.        | Santa Marta.      | United Fruit Co.                | New York via Kingston.           | Jan. 25. | Hercdia.                 | United Fruit Co.                | New Orleans via Tela and Habana.    |
| Jan. 25.        | Sisalua.          | United Fruit Co.                | Colombian ports.                 | Jan. 26. | John Worthington.        | Standard Oil Co.                | Mata Redondo.                       |
| Jan. 26.        | St. Mihiel.       | United States Army.             | New York.                        | Jan. 26. | Kingston.                | United Fruit Co.                | New York and Kingston.              |
| Jan. 26.        | Atenas.           | United Fruit Co.                | Bocas del Toro.                  | Jan. 26. | Santa Marta.             | United Fruit Co.                | New York via Colombia and Jamaica.  |
| Jan. 27.        | Ulua.             | United Fruit Co.                | New York via Habana and Jamaica. | Jan. 26. | Atenas.                  | United Fruit Co.                | New Orleans.                        |
| Jan. 28.        | Megantic.         | White Star Line.                | Kingston.                        | Jan. 26. | Alliance.                | Panama Railroad Steamship Line. | New York via Haiti.                 |
| Jan. 28.        | San Bruno.        | United Fruit Co.                | Port Limon.                      | Jan. 26. | Bushnell and submarines. | United States Navy.             | Guantanamo, Cuba.                   |
|                 |                   |                                 |                                  | Jan. 28. | St. Mihiel.              | United States Army.             | New York.                           |
|                 |                   |                                 |                                  | Jan. 28. | San Bruno.               | United Fruit Co.                | Boston.                             |
|                 |                   |                                 |                                  | Jan. 28. | Ulua.                    | United Fruit Co.                | New York via Port Limon and Habana. |
| PORT OF BALBOA. |                   |                                 |                                  |          |                          |                                 |                                     |
|                 |                   |                                 |                                  | Jan. 24. | America.                 | Santiago Safe.                  | Panama.                             |

Other than ships passing through the Canal.

### Length, Beam, and Draft of Vessels.

Following is a summary of the length, beam, and draft of the commercial vessels passing through the Panama Canal during the calendar year 1921:

| Length.                         | Atlantic to Pacific. | Pacific to Atlantic. | All vessels. | Per cent of all vessels. |
|---------------------------------|----------------------|----------------------|--------------|--------------------------|
| Less than 100 feet.....         | 25                   | 23                   | 48           | 1.7                      |
| 100 to 200 feet.....            | 44                   | 31                   | 75           | 2.7                      |
| 200 to 300 feet.....            | 191                  | 188                  | 379          | 13.6                     |
| 300 to 400 feet.....            | 471                  | 441                  | 912          | 32.8                     |
| 400 to 500 feet.....            | 677                  | 615                  | 1,292        | 46.4                     |
| Over 500 feet.....              | 43                   | 34                   | 77           | 2.8                      |
| Total ships.....                | 1,451                | 1,332                | 2,783        | 100.0                    |
| Aggregate length..... feet..... | 544,149.5            | 497,468.8            | 1,041,618.3  |                          |
| Average length..... feet.....   | 375.0                | 373.4                | 374.3        |                          |
| <b>Beam.</b>                    |                      |                      |              |                          |
| Less than 30 feet.....          | 61                   | 49                   | 110          | 3.9                      |
| 30 to 40 feet.....              | 136                  | 127                  | 263          | 9.4                      |
| 40 to 50 feet.....              | 271                  | 277                  | 548          | 19.7                     |
| 50 to 60 feet.....              | 869                  | 783                  | 1,652        | 59.4                     |
| Over 60 feet.....               | 114                  | 96                   | 210          | 7.6                      |
| Total ships.....                | 1,451                | 1,332                | 2,783        | 100.0                    |
| Aggregate beam..... feet.....   | 72,633.7             | 66,787.7             | 139,421.4    |                          |
| Average beam..... feet.....     | 50.0                 | 50.1                 | 50.1         |                          |
| <b>Draft.</b>                   |                      |                      |              |                          |
| Less than 15 feet.....          | 199                  | 134                  | 333          | 11.9                     |
| 15 to 20 feet.....              | 391                  | 260                  | 651          | 23.4                     |
| 20 to 25 feet.....              | 447                  | 340                  | 987          | 35.5                     |
| 25 to 30 feet.....              | 398                  | 372                  | 770          | 27.7                     |
| 30 feet and over.....           | 16                   | 26                   | 42           | 1.5                      |
| Total ships.....                | 1,451                | 1,332                | 2,783        | 100.0                    |
| Aggregate draft..... feet.....  | 30,438.4             | 29,065.0             | 59,503.4     |                          |
| Average draft..... feet.....    | 20.9                 | 21.8                 | 21.4         |                          |

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended January 28:

U. S. A. T. *Wheaton*, electric weld and redrive leaky rivets in shell plating near after peak tank; install cement bulkhead; overhaul smokestack in galley and branch pipe connections; weld broken stanchion at gangway entrance; cut holes in Samson posts and repair broken hatch bar; barges *No. 134*, dock and undock; scale and paint bottom and straighten coaming; redrive or renew bad order rivets below water line and test tanks; *No. 132*, dock and undock; scale and paint bottom and renew fender on one side, corner angles; redrive all leaky rivets; calk leaky seams and test tanks below water line; steamships *Laura C. Hall*, manufacture key for flywheel; *Elkton*, braze 1 feed water pipe; *Chiapas*, examine and make repairs to air pump for condenser; reassemble and test out; *Albertolite*, dock and undock; scale, clean, and paint bottom; perform miscellaneous hull, boiler, piping, and deck repairs.

#### PREVIOUSLY REPORTED.

Motorship *James Timpson*, dock and undock; clean and paint bottom; renew damaged section of keel and miscellaneous repairs in engineer's department; tug *Mariner*, dock and undock; scale and paint bottom and convert from coal burner to oil burner as per specifications.

The following vessels were at the Cristobal shops for repairs during the week ended January 31:

Steamships *Lake Elmont*, clean and steam tanks; make temporary repairs to hull; make minor repairs to machinery, etc.; *Ansaldo VIII*, file reduction gears; remetal pinion bearings; repair jaw coupling, etc; *Allianca*, electric weld boiler as directed; *Newport*, manufacture and install new crosshead for after capstan; schooner *Irene S. Wilkinson*, manufacture 1 set of sails, complete; steamships *Advance*, key up L. P.

and H. P. engines; overhaul fresh water pump and cooling water pumps; key up dynamo and jacking engines; grind in valves of compressor; pack expansion valves; renew furnace door; renew packing in all auxiliaries and other miscellaneous work to place ship in service; *Barima*, remove H. P. piston and manufacture 6 rings; recut dynamo piston grooves; test heating coil; repair copper bilge pipe; weld hawse pipe; repair boiler tubes as directed; fit air pipe to tank and suction pipe from tank to pump; examine all sea valves, rudder, and tail shaft, etc.; *Quilpué*, repair ballast pump; renew after part of bilge suction pipe; repair water pipes; *Oranje Nassau*, repair ash ejector; *Delco*, *Puerto Rico*, *Manavi*, *Aysen*, *Heredia*, *Caribbean*, *Huallaga*, and *Cape Henry*, minor repairs.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending January 28, 1922.

| Name of vessel.       | Line or charterer.                  | Arrived.        | Departed.       | Cargo—       |              |
|-----------------------|-------------------------------------|-----------------|-----------------|--------------|--------------|
|                       |                                     |                 |                 | Discharged   | Laded.       |
|                       |                                     |                 |                 | <i>Tons.</i> | <i>Tons.</i> |
| Puerto Rico.....      | French Line.....                    |                 | January 22..... |              | 1,290        |
| Venezuela.....        | Pacific Mail Steamship Co.....      |                 | January 22..... |              | 199          |
| Crijnsen.....         | Royal Netherlands W. I. Mail.....   |                 | January 22..... |              | 1,063        |
| Atenas.....           | United Fruit Co.....                | January 22..... | January 22..... | 5½           | 120          |
| Colombia.....         | Pacific Mail Steamship Co.....      | January 22..... | January 24..... | 177          | 856          |
| Caribbean.....        | Panama Railroad Steamship Line..... | January 22..... | January 25..... | 640          | 14           |
| Newport.....          | Pacific Mail Steamship Co.....      |                 | January 25..... |              | 2,214        |
| Manavi.....           | Pacific Steam Navigation Co.....    |                 | January 25..... |              | 33           |
| Aysen.....            | Chilean Line.....                   |                 | January 26..... |              | 588          |
| Allianca.....         | Panama Railroad Steamship Line..... |                 | January 26..... |              | 1,161        |
| Huallaga.....         | Peruvian Line.....                  | January 22..... | January 28..... | 2,066        | 190          |
| Heredia.....          | United Fruit Co.....                | January 23..... | January 25..... | 717          | 536          |
| Shunko Maru.....      | Osaka Shosen Kaisha.....            | January 23..... | January 23..... | 11           | (*)          |
| Ebro.....             | Pacific Steam Navigation Co.....    | January 23..... | January 23..... | 25           | 1½           |
| John Worthington..... | Standard Oil Co.....                | January 24..... | January 26..... | 11,428       | (*)          |
| Hudson.....           | French Line.....                    | January 25..... | January 26..... | 30           | (*)          |
| Santa Marta.....      | United Fruit Co.....                | January 25..... | January 26..... | 124          | 612          |
| Sixola.....           | United Fruit Co.....                | January 25..... | January 26..... | (*)          | 2            |
| Atenas.....           | United Fruit Co.....                | January 26..... | January 26..... | 1            | ½            |
| Ulua.....             | United Fruit Co.....                | January 27..... | January 28..... | 197          | 92           |
| San Bruno.....        | United Fruit Co.....                | January 28..... | January 28..... | 50           | 21           |

\* No cargo discharged.

\* No cargo laded.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending January 28, 1922.

| Name of vessel.     | Line or charterer.                | Arrived.        | Departed.       | Cargo—       |              |
|---------------------|-----------------------------------|-----------------|-----------------|--------------|--------------|
|                     |                                   |                 |                 | Discharged   | Laded.       |
|                     |                                   |                 |                 | <i>Tons.</i> | <i>Tons.</i> |
| Falls of Clyde..... | General Petroleum Co.....         | January 24..... |                 | 728          |              |
| Newport.....        | Pacific Mail Steamship Co.....    | January 25..... | January 25..... |              | 9            |
| Wheaton.....        | U. S. Army Transport Service..... | January 25..... | January 27..... | 6            |              |
| Delagoa Maru.....   | Nippon Yusen Kaisha.....          | January 25..... | January 26..... | 180          |              |

\* U. S. Army transport.

### Trial of Use of Currency in Cristobal Commissary Store.

Beginning March 1 it is intended to accept both currency and coupons in payment for goods at the Cristobal commissary store. This is in the nature of a trial, to see if payment by currency alone, with the abandonment of the coupon system, will be satisfactory. No changes will be made in the coupon system at the other commissary stores for the present.

The system to be used at Cristobal involves the use of tickets. At the entrance to the store the customer will be provided with a ticket, on which will be punched the amount purchased in each department. Upon the completion of purchases the customer will go to the cashier and hand in the ticket, along with currency or coupons to pay the total.



### Official Circular.

#### Reduced Rate on Pacific Steam Navigation Company's Vessels.

THE PANAMA CANAL,  
EXECUTIVE OFFICE.

BALBOA HEIGHTS, C. Z., January 28, 1922.

To all concerned—The Agent of the Pacific Steam Navigation Company informs this office that a reduction of 25 per cent in the fare on the steamships of their company between Cristobal and New York will be allowed employees of The Panama Canal and the Panama Railroad Company stationed on the Isthmus, including the members of their families.

The minimum fare by the steamships *Ebro* and the *Essequibo* by those entitled to the rebate will now be \$109 instead of \$124 as announced in our circular of November 21, 1921.

C. A. McILVAINE,  
Executive Secretary.

#### Typewriters For Sale.

The Supply Department has on sale a number of Underwood typewriters, second hand, model 4. Price range from \$20 to \$30. Inspection can be made by applying to Storekeeper, S. D., administration Building, Balboa Heights.

#### Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

#### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

#### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective January 1, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.29 |
| Brass, sheet, average.....                                        | Lb.            | .40    |
| Bronze, Tobin, average.....                                       | Lb.            | .31    |
| Gasoline, motor grade.....                                        | Gal.           | .40    |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .175   |
| Oakum, Navy, unspun.....                                          | Lb.            | .175   |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Bbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .51    |
| Oil, burning.....                                                 | Gal.           | 1.25   |
| Oil, engine, gas, light, in barrels.....                          | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .675   |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .65    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | 1.125  |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | 1.04   |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .55    |
| Oil, kerosene, in drums.....                                      | Gal.           | .20    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .99    |
| Paint, lead, white, dry.....                                      | Lb.            | .14    |
| Paint, lead, white, in oil.....                                   | Lb.            | .16    |
| Paint, zinc, white, dry.....                                      | Lb.            | .20    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .20    |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .10    |
| Soda, ash.....                                                    | Lb.            | .04    |
| Waste, cotton, colored.....                                       | Lb.            | .175   |
| Waste, cotton, white.....                                         | Lb.            | .20    |

#### Invitation for Proposals to Furnish Native Logs to The Panama Canal.

Sealed bids will be received in the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., until 10.30 a. m. Wednesday, February 15, 1922, and then opened, for furnishing The Panama Canal 300,000 feet B. M., more or less, native logs, during a period of one year from date of contract, in accordance with form of agreement, copies of which may be had upon application to the office of the Chief Quartermaster.

Bids must be inclosed in sealed envelope, addressed to The Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., and marked "Proposal for furnishing native logs, to be opened February 15, 1922."

The Panama Canal reserves the right to reject any or all bids.

The successful bidder will be given the first option to purchase, if desired, the launch *Mecca*, and other logging equipment formerly used by The Panama Canal, at reasonable appraised prices. This launch was built for logging purposes and is particularly suitable for same. Launch may be inspected at Monte Lirio.

#### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line), Pacific Mail Steamship Company, and Matson Line. The two last named charge \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

#### Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama," in the United States, "Pancanal, Washington."



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Volume XV. Balboa Heights, C. Z., February 8, 1922. No. 26.

## Reduction in Rate on Hides.

The Panama Railroad Steamship Line has reduced the rate on hides from Cristobal or Colon to New York, effective February 1, as follows: Dry, loose, or in bales, from \$1 per 100 pounds to 75 cents per 100 pounds; green salted, in bundles, from 58 cents per 100 pounds to 44 cents per 100 pounds.

## Panama Canal Traffic During the Calendar Year 1921.

The traffic through the Panama Canal during the calendar year 1921 was approximately the same as during the calendar year 1920. The total number of vessels, including vessels of the United States Navy and other United States Government vessels exempt from the payment of tolls, was 3,040 in 1921, as compared with 3,035 in 1920.

The vessels in commercial service and the public vessels of foreign nations which paid tolls totaled 2,783 in 1921, against 2,814 in 1920. However, the aggregate net tonnage of these vessels, measured in accordance with Panama Canal rules, was greater than in the previous year, being 11,435,811, as compared with 10,378,265; and the tolls collected in 1921 totaled \$11,261,098 against \$10,295,362 in 1920.

The cargo carried in 1921 was 10,707,005 tons, or slightly less than the 1920 cargo, which totaled 11,236,119 tons.

## TRAFFIC OVER PRINCIPAL TRADE ROUTES.

Traffic over the principal trade routes during the year 1921 is summarized in the following table:

TRADE ROUTE STATISTICS—CALENDAR YEAR 1921.

|                                                                 | No. of ships. | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. | Tolls.       | Tons of cargo. |
|-----------------------------------------------------------------|---------------|---------------------------|-------------------|-------------------|-----------------|--------------|----------------|
| East coast of United States to west coast of South America..... | 157           | 401,517                   | 511,162           | 649,142           | 397,675         | \$489,251.87 | 417,818        |
| West coast of South America to east coast of United States..... | 177           | 458,971                   | 577,702           | 743,866           | 458,317         | 556,652.70   | 622,789        |
| Totals.....                                                     | 334           | 860,488                   | 1,088,864         | 1,393,008         | 855,992         | 1,045,904.57 | 1,040,607      |
| United States coastwise (Atlantic to Pacific).....              | 232           | 968,720                   | 1,187,939         | 1,474,157         | 954,475         | 1,191,615.35 | 893,396        |
| United States coastwise (Pacific to Atlantic).....              | 196           | 784,511                   | 958,217           | 1,200,487         | 784,837         | 968,890.49   | 1,050,722      |
| Totals.....                                                     | 428           | 1,753,231                 | 2,146,156         | 2,674,644         | 1,739,312       | 2,160,505.84 | 1,944,118      |
| United States to Far East... 53                                 | 200           | 812,351                   | 982,770           | 1,218,673         | 783,282         | 1,005,694.15 | 1,271,575      |
| Far East to United States...                                    | 53            | 210,764                   | 257,274           | 323,907           | 206,263         | 259,779.91   | 267,106        |
| Totals.....                                                     | 253           | 1,023,115                 | 1,240,044         | 1,542,580         | 989,545         | 1,265,474.06 | 1,538,681      |
| Europe to west coast of South America.....                      | 118           | 374,541                   | 477,600           | 590,192           | 370,710         | 461,582.01   | 247,320        |
| West coast of South America to Europe.....                      | 160           | 540,533                   | 678,485           | 856,379           | 536,344         | 673,231.05   | 857,107        |
| Totals.....                                                     | 178           | 915,074                   | 1,156,085         | 1,446,571         | 907,054         | 1,134,813.06 | 1,104,427      |

## TRADE ROUTE STATISTICS—CALENDAR YEAR 1921—continued.

|                                                            | No.<br>of<br>ships. | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered<br>gross. | Registered<br>net. | Tolls.       | Tons<br>of cargo. |
|------------------------------------------------------------|---------------------|---------------------------------|-------------------------|----------------------|--------------------|--------------|-------------------|
| Europe to west coast of United States.....                 | 130                 | 498,020                         | 604,271                 | 742,993              | 486,990            | \$551,690.03 | 155,859           |
| West coast of United States to Europe.....                 | 202                 | 785,323                         | 964,865                 | 1,186,825            | 782,953            | 977,577.95   | 1,501,859         |
| Totals.....                                                | 332                 | 1,283,343                       | 1,569,136               | 1,929,818            | 1,269,943          | 1,529,267.98 | 1,657,718         |
| Europe to west coast of Canada.....                        | 22                  | 92,134                          | 117,851                 | 143,425              | 91,120             | 110,796.93   | 59,258            |
| West coast of Canada to Europe.....                        | 35                  | 140,795                         | 182,305                 | 221,945              | 141,717            | 175,839.85   | 252,684           |
| Totals.....                                                | 57                  | 232,929                         | 300,156                 | 365,370              | 232,837            | 286,636.78   | 311,942           |
| East coast of United States to Australasia.....            | 75                  | 318,013                         | 377,470                 | 469,904              | 307,433            | 392,546.13   | 446,101           |
| Australasia to east coast of United States.....            | 15                  | 55,232                          | 67,595                  | 85,635               | 54,435             | 69,040.00    | 55,835            |
| Totals.....                                                | 90                  | 373,245                         | 445,065                 | 555,539              | 361,868            | 461,586.13   | 501,936           |
| Europe to Australasia.....                                 | 78                  | 429,376                         | 529,355                 | 653,965              | 417,402            | 534,583.40   | 346,600           |
| Australasia to Europe.....                                 | 97                  | 534,996                         | 641,063                 | 800,179              | 512,957            | 664,536.40   | 540,633           |
| Totals.....                                                | 175                 | 964,372                         | 1,170,418               | 1,454,144            | 930,359            | 1,199,119.80 | 887,233           |
| Cristobal to west coast of South America.....              | 129                 | 112,989                         | 191,798                 | 266,609              | 148,619            | 137,779.79   | 39,497            |
| West coast of South America to Cristobal.....              | 131                 | 112,588                         | 190,044                 | 265,608              | 147,849            | 140,657.95   | 90,183            |
| Totals.....                                                | 260                 | 225,577                         | 381,842                 | 532,217              | 296,468            | 2,784,437.74 | 129,680           |
| Cristobal to west coast of Central America.....            | 31                  | 20,774                          | 23,078                  | 38,354               | 21,042             | 24,999.80    | 14,290            |
| West coast of Central America to Cristobal.....            | 34                  | 22,772                          | 25,258                  | 41,664               | 23,093             | 30,519.30    | 14,815            |
| Totals.....                                                | 65                  | 43,546                          | 48,336                  | 80,018               | 44,135             | 55,519.10    | 29,105            |
| Cristobal to west coast of United States.....              | 21                  | 32,801                          | 39,739                  | 53,058               | 32,479             | 40,598.75    | 26,245            |
| West coast of United States to Cristobal.....              | 23                  | 42,288                          | 49,705                  | 66,381               | 41,942             | 48,747.05    | 15,432            |
| Totals.....                                                | 44                  | 75,089                          | 89,444                  | 119,439              | 74,421             | 89,345.80    | 41,677            |
| Mexico to west coast of South America.....                 | 39                  | 169,471                         | 198,042                 | 265,392              | 167,799            | 211,276.50   | 348,626           |
| West coast of South America to Mexico.....                 | 44                  | 191,912                         | 221,251                 | 301,433              | 191,360            | 160,436.53   | 230               |
| Totals.....                                                | 83                  | 361,383                         | 419,293                 | 566,825              | 359,159            | 371,713.03   | 348,856           |
| Mexico to west coast of United States.....                 | 26                  | 112,706                         | 130,037                 | 174,775              | 110,358            | 138,569.88   | 230,259           |
| West coast of United States to Mexico.....                 | 30                  | 138,123                         | 155,743                 | 208,028              | 134,851            | 117,234.56   | 5,388             |
| Totals.....                                                | 56                  | 250,829                         | 285,780                 | 382,803              | 245,209            | 255,804.44   | 235,647           |
| East coast of United States to west coast of Canada.....   | 12                  | 41,249                          | 51,149                  | 64,059               | 40,837             | 48,296.77    | 34,148            |
| West coast of Canada to east coast of United States.....   | 10                  | 40,675                          | 47,783                  | 58,564               | 39,670             | 50,724.80    | 50,420            |
| Totals.....                                                | 22                  | 81,924                          | 98,932                  | 122,623              | 80,507             | 99,021.57    | 84,568            |
| East coast of United States to Balboa.....                 | 14                  | 68,755                          | 79,566                  | 108,169              | 68,477             | 85,858.80    | 110,907           |
| Balboa to east coast of United States.....                 | 10                  | 57,274                          | 66,000                  | 87,960               | 56,550             | 47,663.67    | .....             |
| Totals.....                                                | 24                  | 126,029                         | 145,566                 | 196,129              | 125,027            | 133,522.47   | 110,907           |
| United States coastwise (foreign) Atlantic to Pacific..... | 15                  | 60,177                          | 69,842                  | 86,511               | 57,546             | 70,523.13    | .....             |
| United States coastwise (foreign) Pacific to Atlantic..... | 3                   | 8,991                           | 12,222                  | 14,174               | 8,878              | 11,238.75    | 20,145            |
| Totals.....                                                | 18                  | 69,168                          | 82,064                  | 100,685              | 66,424             | 81,761.88    | 20,145            |

\* Newport News for orders.

## TRADE ROUTE STATISTICS—CALENDAR YEAR 1921—continued.

|                                                                           | No.<br>of<br>ships. | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered<br>gross. | Registered<br>net. | Tolls.        | Tons-<br>of cargo. |
|---------------------------------------------------------------------------|---------------------|---------------------------------|-------------------------|----------------------|--------------------|---------------|--------------------|
| East coast of United States<br>to west coast of Central<br>America.....   | 1                   | 719                             | 730                     | 818                  | 708                | \$878.40      | 6                  |
| West coast of Central Amer-<br>ica to east coast of United<br>States..... | 4                   | 3,073                           | 3,291                   | 4,534                | 3,007              | 2,655.72      | 589                |
| Totals.....                                                               | 5                   | 3,792                           | 4,021                   | 5,352                | 3,715              | 3,534.12      | 595                |
| Mexico to Balboa.....                                                     | 2                   | 8,102                           | 9,692                   | 13,589               | 8,392              | 10,127.50     | 16,600             |
| Balboa to Mexico.....                                                     | 10                  | 42,448                          | 48,996                  | 68,271               | 42,135             | 35,277.12     | .....              |
| Totals.....                                                               | 12                  | 50,550                          | 58,688                  | 81,860               | 50,527             | 45,404.62     | 16,600             |
| West Indies to west coast of<br>South America.....                        | 2                   | 3,147                           | 2,921                   | 1,185                | 604                | 3,200.40      | 2,500              |
| West coast of South America<br>to West Indies.....                        | 3                   | 9,522                           | 10,391                  | 12,908               | 9,264              | 11,869.20     | 17,656             |
| Totals.....                                                               | 5                   | 12,669                          | 13,312                  | 14,093               | 9,868              | 15,069.60     | 20,156             |
| West Indies to United States.                                             | 6                   | 14,045                          | 18,088                  | 22,350               | 13,624             | 14,657.05     | 3,466              |
| West coast of South America<br>to Azores.....                             | 10                  | 30,832                          | 36,125                  | 44,999               | 29,592             | 38,139.55     | 66,291             |
| Miscellaneous (Atlantic to<br>Pacific).....                               | 141                 | 341,354                         | 392,445                 | 506,428              | 334,860            | 442,040.65    | 401,204            |
| Miscellaneous (Pacific to At-<br>lantic).....                             | 85                  | 211,103                         | 245,951                 | 314,335              | 205,073            | 253,718.66    | 211,446            |
| Totals.....                                                               | 226                 | 552,457                         | 638,396                 | 820,763              | 539,933            | 695,759.31    | 612,650            |
| Grand totals.....                                                         | 2,783               | 9,303,687                       | 11,435,811              | 14,451,830           | 9,225,519          | 11,261,098.50 | 10,707,005         |

## SHIFTING TRADE ROUTES.

While the totals of cargo for the 2 years are approximately the same, there have been extensive changes in the volume moving over the various trade routes served by the Canal, as the accompanying graphs will indicate.

## CARGO FROM ATLANTIC TO PACIFIC—CALENDAR YEAR 1920.

|                                     | Tons.     |  |
|-------------------------------------|-----------|--|
| United States to Far East.....      | 1,405,417 |  |
| United States to South America..... | 893,393   |  |
| Mexico to South America.....        | 659,777   |  |
| United States to Australasia.....   | 532,297   |  |
| United States coastwise.....        | 516,632   |  |
| Europe to Australasia.....          | 310,876   |  |
| Europe to South America.....        | 259,921   |  |
| Mexico to United States.....        | 129,510   |  |
| Cristobal to South America.....     | 114,445   |  |
| Europe to United States.....        | 110,401   |  |
| United States to Canada.....        | 92,371    |  |
| Cristobal to United States.....     | 38,680    |  |
| Cristobal to Central America.....   | 15,102    |  |
| Miscellaneous.....                  | 190,528   |  |
| Total.....                          | 5,269,350 |  |

## CARGO FROM ATLANTIC TO PACIFIC—CALENDAR YEAR 1921.

|                                     | Tons.     |  |
|-------------------------------------|-----------|--|
| United States to Far East.....      | 1,271,575 |  |
| United States to South America..... | 417,818   |  |
| Mexico to South America.....        | 348,626   |  |
| United States to Australasia.....   | 446,101   |  |
| United States coastwise.....        | 893,396   |  |
| Europe to Australasia.....          | 346,600   |  |
| Europe to South America.....        | 247,320   |  |
| Mexico to United States.....        | 230,259   |  |
| Cristobal to South America.....     | 39,497    |  |
| Europe to United States.....        | 155,859   |  |
| United States to Canada.....        | 34,148    |  |
| Cristobal to United States.....     | 26,245    |  |
| Cristobal to Central America.....   | 14,290    |  |
| Miscellaneous.....                  | 593,941   |  |
| Total.....                          | 5,065,675 |  |

Taking first the cargo moving from Atlantic to Pacific, the most important trade is still that from the United States to the Far East, but the cargo tonnage moving over this route declined approximately 9 per cent.

Cargo from the east coast of the United States to the west coast of South America declined more than 52 per cent. The greatest tonnage loss here was in coal shipments from Chesapeake Bay.

Cargo from the east coast of Mexico to the west coast of South America (crude oil) declined 47 per cent, and cargo from the east coast of the United States to Australasia declined 16 per cent.

On the other hand, there was a notable increase in the United States coastwise trade, amounting to no less than 73 per cent.

The foregoing are the important trades. Of the minor trades, the following show decreases: Europe to west coast of South America, Cristobal to west coast of South America, east coast of the United States to the west coast of Canada, and Cristobal to the west coast of the United States. The following of the lesser trades show increases: Europe to Australasia, Mexico to the west coast of the United States (crude oil), Europe to the west coast of the United States, and the miscellaneous routes.

CARGO FROM PACIFIC TO ATLANTIC—CALENDAR YEAR 1920.

|                                     | Tons.     |  |
|-------------------------------------|-----------|--|
| South America to United States..... | 1,447,849 |  |
| South America to Europe.....        | 1,062,702 |  |
| United States to Europe.....        | 749,447   |  |
| United States coastwise.....        | 669,095   |  |
| Far East to United States.....      | 549,990   |  |
| Australasia to Europe.....          | 459,527   |  |
| South America to Cristobal.....     | 251,451   |  |
| Australasia to United States.....   | 156,015   |  |
| Canada to Europe.....               | 129,909   |  |
| United States to Africa.....        | 60,476    |  |
| United States to Cristobal.....     | 46,542    |  |
| South America to West Indies.....   | 21,435    |  |
| Central America to Cristobal.....   | 16,054    |  |
| Miscellaneous.....                  | 346,277   |  |
| Total.....                          | 5,966,769 |  |

CARGO FROM PACIFIC TO ATLANTIC—CALENDAR YEAR 1921.

|                                     | Tons.     |  |
|-------------------------------------|-----------|--|
| South America to United States..... | 622,789   |  |
| South America to Europe.....        | 857,107   |  |
| United States to Europe.....        | 1,501,859 |  |
| United States coastwise.....        | 1,050,722 |  |
| Far East to United States.....      | 267,106   |  |
| Australasia to Europe.....          | 540,633   |  |
| South America to Cristobal.....     | 90,183    |  |
| Australasia to United States.....   | 55,835    |  |
| Canada to Europe.....               | 252,684   |  |
| United States to Africa.....        |           |  |
| United States to Cristobal.....     | 15,432    |  |
| South America to West Indies.....   | 17,656    |  |
| Central America to Cristobal.....   | 14,815    |  |
| Miscellaneous.....                  | 354,509   |  |
| Total.....                          | 5,641,330 |  |

Taking the cargo moving from Pacific to Atlantic, the trade from the west coast of South America to the east coast of the United States shows a shrinkage of 57 per cent, and the trade from the west coast of South America to Europe a shrinkage of 19 per cent. This has been due in the main to the decline of the Chilean nitrate business.

The trade from the Far East to the east coast of the United States has fallen off 51 per cent. But to compensate for this there has been an increase of more than 100 per cent in the cargo moving from the



west coast of the United States to Europe, and an increase of 57 per cent in the eastbound United States coastwise trade.

Minor trades which have declined are: South America to Cristobal, Australasia to the United States, the west coast of the United States to Cristobal, South America to the West Indies, and Central America to Cristobal. There has been an increase in the trades from Australasia to Europe, the west coast of Canada to Europe, and the miscellaneous trade routes.

On the whole, the area which appears to have benefited most by the operation of the Canal during the past years has been the west coast of North America, including Canada and the United States.

### **Ships at Canal Repair Shops.**

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended February 6:

Motor ship *Pedro Christopherson*, repair oil pump, starboard side; remove crank shaft of port auxiliary compressor engine; straighten and remachine bearing controls; remetal bearings and bed-down shaft; manufacture and install bushing for No. 1 cylinder and straighten connecting rod; manufacture and install new piston; repair jacking gear; manufacture 4 valve stems and seats, and eccentric strap to oil pump.

#### **PREVIOUSLY REPORTED.**

Barges *No. 132*, dock and undock; scale and paint bottom, and necessary repairs below water line, on hull; *No. 134*, dock and undock; scale and paint bottom, and necessary repairs below water line, on hull; motor ship *James Timpson*, dock and undock; clean and paint bottom; renew damaged section of keel and miscellaneous repairs in engineer's department; tug *Mariner*, dock and undock; scale and paint bottom, and convert from coal burner to oil burner as per specifications.

The following vessels were at the Cristobal shops for repairs during the week ended February 6:

Steamships *Cauca*, dock, clean and paint hull; renew 1 plate in hull; repair refrigerator; examine rudder and all sea valves, etc.; *Tamar*, manufacture feed pump ram; manufacture funnel for galley; electric weld and repair boilers; repair winch pipe; repair steering rod coupling, etc.; tug *Porto Bello*, dock, scrape, and paint hull; electric weld boiler; renew fender guards and railing where directed; overhaul air pump and all sea valves; repair piping, etc.; steamships *General O. H. Ernst*, retube ammonia condenser; repair anchor windlass; plug holes in forepeak tank; *Panama*, straighten 3 deck stanchions; overhaul screws on boat davits; install new tripper on port anchor; manufacture 2 water column valves for main boiler, etc.; *Solana*, repair anchor windlass and boilers; examine cylinders; furnish 50 laborers to clean and paint hull and holds, also clean in engine and fire room; repair galley range and renew brickwork; repair miscellaneous piping, etc.; *Caribbean*, open up all cylinders, valves, etc., in main engines, auxiliaries, and deck hoisters; remove packing from above and coat for laying up of ship; clean boilers and coat with fish oil, etc.; *Balboa*, repair friction band on hoister and clean boilers; *General W. C. Gorgas*, weld back connection of boilers; roll tubes; repair scupper pipe, etc.; *Jamaica*, *Fairfield City*, *Tolosa*, *Zacapa*, and schooner *Linda S.*, minor repairs.

### **Executive Order.—Rules of Practice and Procedure of the United States District Court in and for the Canal Zone.<sup>1</sup>**

By virtue of the authority vested in me by Act of August 24, 1912, c. 390, sec. 8, it is

ORDERED, That the within Rules of Court<sup>2</sup> shall be in force in the United States District Court, in and for the Canal Zone, on and after this date.

All previous orders in conflict with this order are hereby repealed.

WARREN G. HARDING.

THE WHITE HOUSE,  
December 30, 1921.

<sup>1</sup>Published as Panama Canal circular No. 601-128.

<sup>2</sup>NOTE: The Rules of Court referred to in the above Executive Order are being printed in the form of a pamphlet entitled "Rules of Practice and Procedure of the United States District Court in and for the Canal Zone."

**MOVEMENTS OF OCEAN VESSELS.**  
*Week ending at midnight, February 4, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                    | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                              | Length. | Beam. | Salt water draft. | From—        | For—          | Cargo.            |       | Panama Canal tonnage. |       |
|--------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------------------------------|---------|-------|-------------------|--------------|---------------|-------------------|-------|-----------------------|-------|
|                          | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                    |         |       |                   |              |               | Nature.           | Tons. | Gross.                | Net.  |
| Kentuckian               | 29               | 2 00  | 29             | 6 24  | 30                 | 6 15  | 30               | 14 41 | 30           | 15 50                              | 414.0   | 53.0  | 21.0              | Philadelphia | Los Angeles   | General.          | 3,000 | 7,049                 | 4,941 |
| Noorderdik               | 29               | 6 24  | 30             | 6 15  | 30                 | 14 41 | 30               | 15 50 | Dutch.       | American-Hawaiian Line.            | 470.0   | 58.0  | 25.0              | London       | Los Angeles   | General.          | 5,390 | 8,888                 | 6,612 |
| Port Nicholson           | 29               | 23 11 | 30             | 7 22  | 30                 | 16 19 | 30               | 16 19 | British.     | Holland-American Line.             | 481.2   | 62.3  | 23.0              | New York     | Los Angeles   | General.          | 1,709 | 10,821                | 8,048 |
| Chickasaw City           | 29               | 22 46 | 30             | 10 20 | 30                 | 19 08 | 30               | 19 08 | American.    | Commonwealth and Dom. Line.        | 395.5   | 55.0  | 28.4              | New Orleans  | Yokohama      | General.          | 8,310 | 6,841                 | 4,686 |
| Robio Good-fellow        | 30               | 12 35 | 30             | 13 12 | 30                 | 21 02 | 30               | 22 32 | American.    | United States Steel Products Co.   | 424.8   | 55.2  | 28.4              | New York     | Seattle       | General.          | 5,624 | 6,939                 | 5,624 |
| Cayuco 2072              | 24               | 30    | 30             | 30    | 30                 | 15 35 | 30               | 15 35 | Panama.      | Robin Line Steamship Co.           |         |       |                   | Cristobal    | Gatun Lake    | General and coal. | 1,572 | 4,742                 | 3,023 |
| Quilore                  | 29               | 23 29 | 30             | 6 20  | 31                 | 14 17 | 31               | 16 55 | British.     | E. Sardin.                         | 361.0   | 46.0  | 21.4              | New York     | Valparaiso    | General and coal. | 2,844 | 1,748                 |       |
| Alvarado                 | 29               | 6 30  | 31             | 6 23  | 31                 | 14 22 | 31               | 15 43 | British.     | Pacific Steam Navigation Co.       | 303.0   | 43.0  | 12.10             | Immingham    | Guayaquil     | Ballast.          | 4,800 | 5,148                 | 3,523 |
| Care Henry.              | 30               | 14 50 | 31             | 7 22  | 31                 | 15 21 | 31               | 16 25 | American.    | Atl. Gulf & Pacific S. S. Co.      | 376.0   | 52.0  | 21.10             | Jacksonville | Los Angeles   | General.          | 5,000 | 11,487                | 8,732 |
| Lewis Luckenbach         | 30               | 18 23 | 31             | 8 05  | 31                 | 16 30 | 31               | 17 27 | American.    | Luckenbach Line                    | 520.0   | 68.0  | 21.0              | New York     | San Francisco | General.          | 5,700 | 4,662                 | 3,397 |
| Irish Monarch.           | 30               | 15 28 | 31             | 9 05  | 31                 | 17 31 | 31               | 18 40 | British.     | Racharn & Verol, Ltd.              | 385.0   | 48.0  | 25.0              | Calbarren    | Moji          | Sugar.            | 8,856 | 6,559                 |       |
| Narenta                  | 30               | 17 11 | 31             | 10 30 | 31                 | 18 36 | 31               | 19 30 | British.     | Royal Mail Steam Packet Co.        | 450.0   | 58.0  | 18.2              | Newcastle    | Portland.     | Ballast.          | 8,000 | 5,791                 | 3,714 |
| Laurelleaf               | 30               | 22 00 | 31             | 10 50 | 31                 | 19 38 | 31               | 19 38 | British.     | Anglo-Saxon Petroleum Co.          | 370.0   | 51.4  | 27.10             | Curacao      | Ballboa       | Fuel oil.         | 703   | 1,187                 | 622   |
| Japanica                 | 31               | 4 54  | 31             | 6 14  | 31                 | 13 27 | 31               | 17 25 | British.     | Pacific Steam Navigation Co.       | 220.0   | 34.0  | 14.3              | Tunaco       | Los Angeles   | General.          | 5,465 | 7,047                 | 5,030 |
| A. L. Kent.              | 31               | 20 10 | 31             | 7 55  | 31                 | 16 21 | 31               | 17 25 | American.    | Crowell & Thurlow                  | 394.1   | 55.1  | 22.0              | Baltimore    | Los Angeles   | Crude oil.        | 6,700 | 5,292                 | 4,434 |
| Corning                  | 1                | 8 49  | 1              | 9 05  | 1                  | 17 10 | 1                | 20 10 | British.     | Standard Oil Co.                   | 385.7   | 52.4  | 24.0              | Tampico      | Port Pirie    | General.          | 6,635 | 6,022                 | 4,434 |
| Knights Templar          | 1                | 10 07 | 1              | 10 20 | 1                  | 18 30 | 1                | 20 10 | British.     | Hain Steamship Co.                 | 400.3   | 52.1  | 25.8              | New Orleans  | Shanghai      | General.          | 9,310 | 8,120                 | 5,808 |
| Rio Gatun.               | 1                | 7 00  | 1              | 12 00 | 1                  | 19 36 | 1                | 20 50 | British.     | Blue Fuel Inc.                     | 470.0   | 58.0  | 27.6              | Cristobal    | Gatun Lake    | General.          | 1,341 | 6,161                 | 4,300 |
| Col. Geo. F. E. Harrison | 11-7             | 12 45 | 2              | 8 18  | 2                  | 15 57 | 2                | 17 25 | American.    | United States Army.                | 161.3   | 32.1  |                   | Cristobal    | Balboa        | General.          | 1,385 | 5,371                 | 3,969 |
| Blue Triangle            | 2                | 8 00  | 2              | 8 40  | 2                  | 16 09 | 2                | 17 25 | American.    | N. Atl. & Western S. S. Co. (S.B.) | 300.0   | 54.2  | 19.0              | Cristobal    | Seattle       | General.          | 4,120 | 7,893                 | 5,647 |
| Frances                  | 1                | 19 52 | 2              | 10 37 | 2                  | 10 37 | 2                | 4 00  | American.    | S. M. Perkins                      | 40.0    | 11.4  | 14.1              | Goldenborg.  | Puget Sound   | General.          | 8,000 | 9,146                 | 6,355 |
| Valparaiso               | 3                | 17 17 | 3              | 6 34  | 3                  | 17 00 | 4                | 4 00  | Swedish.     | Johnson Steamship Line.            | 350.0   | 50.0  | 17.6              | Cristobal    | Yokohama      | Fuel oil.         | 1,587 | 2,036                 | 1,157 |
| Alkoma                   | 27               | 19 32 | 3              | 6 41  | 3                  | 16 55 | 4                | 10 31 | American.    | United States Navy.                | 434.3   | 57.7  | 21.3              | Tampico      | Yokohama      | Coal and general. | 657   | 1,634                 | 871   |
| Deerfield                | 3                | 4 42  | 3              | 7 08  | 3                  | 18 10 | 3                | 19 30 | American.    | Elder Steel Steamship Co.          | 470.0   | 56.0  | 26.6              | New York     | Cruz Grande   | Ballast.          | 7,867 | 4,829                 |       |
| Kiyo Maru                | 3                | 5 50  | 3              | 8 32  | 3                  | 19 28 | 4                | 13 30 | Japanese.    | Toyo Kisen Kaisha.                 | 254.2   | 39.2  | 18.0              | Cristobal    | Buenaventura  | General.          | 6,682 | 6,043                 | 4,569 |
| Grantos                  | 3                | 3 40  | 3              | 12 34 | 3                  | 20 20 | 3                | 21 28 | Norwegian.   | Thor Thoresen                      | 220.5   | 37.0  | 12.10             | Cristobal    | Puget Sound   | Gen. ammunition   | 3,054 |                       |       |
| Barna.                   | 1-21             | 16 04 | 3              | 12 58 | 3                  | 20 10 | 3                | 22 07 | British.     | Pacific Steam Navigation Co.       | 220.5   | 37.0  | 12.10             | Cristobal    | Buenaventura  | Ballast.          | 737   |                       |       |
| America                  | 1                | 3 40  | 3              | 12 58 | 3                  | 20 10 | 3                | 22 07 | Panama.      | J. H. Stilson                      | 450.6   | 57.2  | 20.0              | Cristobal    | Cruz Grande   | Ballast.          | 7,867 | 4,829                 |       |
| Cubore                   | 3                | 22 40 | 4              | 6 38  | 4                  | 14 04 | 4                | 15 10 | American.    | Guaranty Trust Co.                 | 381.0   | 25.0  | 9.0               | Baltimore.   | Buenaventura  | General.          | 6,682 | 6,043                 | 4,569 |
| Laurea C. Hall           | 3                | 18 10 | 4              | 6 15  | 4                  | 15 35 | 5                | 13 38 | British.     | Nippon Yusen Kaisha                | 385.0   | 51.0  | 25.9              | Savannah.    | Yokohama      | General.          | 3,054 |                       |       |
| Nagato Maru              | 3                | 23 42 | 4              | 7 35  | 4                  | 15 36 | 4                | 16 45 | Japanese.    | Colonial Steam Navigation Co.      | 483.0   | 60.1  | 24.0              | New York     | Puget Sound   | Gen. ammunition   | 737   |                       |       |
| Nitro                    | 3                | 7 55  | 4              | 8 50  | 4                  | 16 40 | 4                | 17 35 | American.    | United States Navy                 | 190.0   | 29.0  | 10.1              | Cristobal    | Buenaventura  | Ballast.          |       |                       |       |
| Balboa                   | 31               | 14 11 | 4              | 10 00 | 4                  | 17 34 | 4                | 18 30 | American.    | Colombian Maritime Co.             | 190.0   | 29.0  | 10.1              | Cristobal    | Buenaventura  | Ballast.          |       |                       |       |

1 Launch.

2 Mine planter.

3 Motor ship.

4 Tug.

5 Motor schooner.

6 Ammunition ship.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                | 29   | 14 | 25 | 30 | 6  | 51 | 30 | 14 | 50 | 31 | 7  | 35 | American  | United States Steel Products Co.  | 494.2 | 56.2 | 25.8 | San Diego     | United King   | Lumber, general   |
|----------------|------|----|----|----|----|----|----|----|----|----|----|----|-----------|-----------------------------------|-------|------|------|---------------|---------------|-------------------|
| Seed Worker    | 29   | 14 | 25 | 30 | 7  | 41 | 30 | 15 | 23 | 30 | 15 | 23 | American  | N. Atl. & West, S. S. Co. (S. B.) | 390.0 | 54.2 | 18.0 | Seattle       | Portland, Me. | Shingles, general |
| Lehigh         | 29   | 16 | 35 | 30 | 7  | 41 | 30 | 16 | 55 | 30 | 15 | 23 | American  | Pacific Steam Navigation Co.      | 465.1 | 56.0 | 23.6 | Coronel       | Liverpool     | (*)               |
| Orina          | 30   | 0  | 30 | 30 | 8  | 58 | 30 | 16 | 55 | 30 | 15 | 23 | British   | Columbian Maritime Co.            | 190.0 | 29.1 | 14.3 | Buenaventura  | Cristobal     | Coffee, hides     |
| Balboa         | 30   | 16 | 25 | 31 | 6  | 40 | 31 | 14 | 11 | 4  | 10 | 00 | American  | Lockenbach Line, (S. B.)          | 401.8 | 52.2 | 15.3 | Seattle       | Mobile        | General           |
| Florence Luck- | 31   | 6  | 00 | 31 | 7  | 47 | 31 | 14 | 50 | 31 | 14 | 50 | American  | Wessel Duval & Co. (S. B.)        | 380.2 | 53.1 | 23.8 | Valparaiso    | Charleston    | (*)               |
| Orona          | 31   | 8  | 05 | 31 | 9  | 04 | 31 | 17 | 35 | 31 | 22 | 05 | American  | United States Army                | 156.0 | 32.0 |      | Balboa        | Cristobal     | Copper ore        |
| Gen. W. M.     | 9-15 | 15 | 06 | 31 | 9  | 13 | 31 | 17 | 05 | 31 | 16 | 35 | American  | W. Wilhelmsson                    | 417.0 | 54.2 | 28.0 | Panama        | New York      | Puntarenas        |
| Graham         | 1    | 0  | 20 | 1  | 8  | 12 | 1  | 16 | 35 | 1  | 23 | 47 | Norwegian | Elder Steel Steamship Co.         | 410.5 | 54.3 | 24.0 | Puget Sound   | New York      | Lumber            |
| Tolman         | 1    | 12 | 30 | 1  | 13 | 12 | 1  | 20 | 49 | 1  | 23 | 47 | American  | Dollar Line                       | 288.8 | 44.6 | 21.0 | Vancouver     | Baltimore     | General           |
| West Cateau    | 1    | 17 | 00 | 2  | 6  | 55 | 2  | 14 | 10 | 2  | 18 | 46 | American  | Matson Navigation Co. (S. B.)     | 517.0 | 72.2 | 23.6 | Honolulu      | Baltimore     | (*)               |
| Stanley Dollar | 1    | 10 | 10 | 2  | 8  | 09 | 2  | 15 | 55 | 2  | 17 | 23 | British   | Anglo-Saxon Petroleum Co.         | 370.1 | 51.4 | 27.0 | Balboa        | Tampico       | Ballast           |
| Hawkeye State  | 31   | 19 | 38 | 2  | 10 | 19 | 3  | 19 | 25 | 3  | 18 | 15 | British   | Anglo-Saxon Petroleum Co.         | 412.4 | 53.4 | 24.0 | San Francisco | United King   | Lubricating oil   |
| Laurelleaf     | 2    | 9  | 20 | 2  | 10 | 51 | 3  | 19 | 25 | 3  | 18 | 15 | British   | F. and W. Watson                  | 380.0 | 46.0 | 23.5 | Puntarenas    | England       | General           |
| Laurel Branch  | 2    | 16 | 30 | 3  | 6  | 46 | 3  | 15 | 13 | 3  | 15 | 30 | British   | Pacific Steam Navigation Co.      | 406.3 | 54.2 | 26.8 | Talahuanu     | Havre         | General           |
| La Paz         | 2    | 20 | 00 | 3  | 8  | 05 | 3  | 16 | 30 | 4  | 5  | 25 | British   | Barber Lines (S. B.)              | 410.0 | 54.4 | 18.6 | Hongkong      | New York      | Coffee            |
| Le West Hindoo | 3    | 2  | 17 | 3  | 8  | 30 | 3  | 16 | 10 | 4  | 6  | 15 | American  | Pacific Metals Corporation        | 81.0  | 25.5 | 9.6  | Buenaventura  | Cristobal     | (*)               |
| Laura C. Hall  | 2    | 14 | 00 | 3  | 9  | 22 | 3  | 18 | 10 | 4  | 6  | 15 | British   | Pacific Steam Navigation Co.      | 246.0 | 35.2 | 13.0 | Valparaiso    | Cristobal     | Wine              |
| Ganea          | 3    | 9  | 15 | 3  | 11 | 20 | 3  | 18 | 17 | 3  | 18 | 17 | British   | Union Sulphur Co.                 | 356.0 | 51.4 | 14.0 | Los Angeles   | Sabine, Tex.  | Ballast           |
| Henry D.       | 3    | 11 | 45 | 3  | 12 | 28 | 3  | 19 | 15 | 4  | 5  | 10 | American  | Standard Oil Co.                  | 385.7 | 52.4 | 17.8 | Balboa        | Tampico       | Ballast           |
| Whiton         | 1    | 17 | 10 | 3  | 13 | 32 | 3  | 20 | 54 | 3  | 20 | 54 | American  | French Line                       | 490.0 | 52.4 | 26.0 | Vancouver     | Bordeaux      | (*)               |
| Corning        | 3    | 15 | 50 | 4  | 6  | 49 | 4  | 14 | 52 | 4  | 17 | 50 | French    | United States Navy                | 283.0 | 40.0 | 18.0 | Mare Island   | Philadelphia  | Navy stores       |
| Mississippi    | 3    | 15 | 50 | 4  | 7  | 23 | 4  | 16 | 15 | 4  | 16 | 15 | American  | South American Steamship Co.      | 336.8 | 41.2 | 22.6 | Talahuanu     | Cristobal     | General           |
| Saturn         | 4    | 1  | 20 | 4  | 7  | 41 | 4  | 16 | 07 | 4  | 16 | 07 | Chilean   |                                   |       |      |      |               |               |                   |
| Imperial       | 4    | 1  | 20 | 4  | 7  | 41 | 4  | 16 | 07 | 4  | 16 | 07 | Chilean   |                                   |       |      |      |               |               |                   |

7 Transport. \* Cotton, sugar, and metals. \* Nitrate of soda and general. \*\* Copra, hemp, and cases of pineapples. \*\* Grain, canned goods, dried fruits, and lambers.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |                     |                                 |                              | *DEPARTURES. |                     |                               |                           |
|------------|---------------------|---------------------------------|------------------------------|--------------|---------------------|-------------------------------|---------------------------|
| Date.      | Vessel.             | Line.                           | From—                        | Date.        | Vessel.             | Line.                         | For—                      |
| Jan. 29    | Abangarez           | United Fruit Co.                | New Orleans via Habana.      | Jan. 29      | Megantic            | White Star Line               | La Guaira.                |
| Jan. 29    | Gen. W. C. Gorgas   | Panama Railroad Steamship Line. | New York via Haiti.          | Jan. 29      | Oranje Nassau       | Royal Netherlands W. I. Mail  | Port Limon.               |
| Jan. 29    | Oranje Nassau       | Royal Netherlands W. I. Mail    | Amsterdam via wayports.      | Jan. 30      | Abangarez           | United Fruit Co.              | Bocas del Toro.           |
| Jan. 30    | Caribbean           | Panama Railroad Steamship Line. | Cartagena.                   | Jan. 30      | Patumet             | United States Navy            | High seas.                |
| Jan. 30    | Paraisma            | United Fruit Co.                | New Orleans.                 | Jan. 31      | Columbia            | N. O. & S. S. Line            | New Orleans via wayports. |
| Jan. 31    | Columbia            | N. O. & S. S. S. Line.          | New Orleans.                 | Feb. 1       | Empress of Britain. | Canadian Pacific Railroad Co. | New Orleans via wayports. |
| Jan. 31    | La Navarre          | French Line                     | Havre via wayports.          | Feb. 1       | Lake Elmont.        | Clyde Line.                   | La Guaira.                |
| Feb. 1     | Empress of Britain. | United Fruit Co.                | New York via wayports.       | Feb. 2       | San Gil             | United Fruit Co.              | Santiago, Cuba.           |
| Feb. 1     | Linda S.            | Surgeon Brothers                | Boston via wayports.         | Feb. 2       | Abangarez           | United Fruit Co.              | Port Limon.               |
| Feb. 1     | Tamar               | Royal Mail Steam Packet Co.     | Colon.                       | Feb. 2       | Gladiator           | Harrison Line.                | New Orleans.              |
| Feb. 1     | Trophon             | Anglo-Saxon Petroleum Co.       | United Kingdom via wayports. | Feb. 3       | Trophon.            | Anglo-Saxon Petroleum Co.     | Puerto Cortez.            |
| Feb. 1     | Trochon             | Anglo-Saxon Petroleum Co.       | Curacao.                     | Feb. 3       | La Navarre.         | French Line.                  | Tampico.                  |
| Feb. 1     |                     |                                 |                              | Feb. 3       |                     |                               | Puerto Colombia.          |

(Continued on page 344, column 2.)



**Typewriters For Sale.**

The Supply Department has on sale a number of Underwood typewriters, second hand, model 4. Price range from \$20 to \$30. Inspection can be made by applying to Storekeeper, S. D., administration Building, Balboa Heights.

**Sale of Lumber.**

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

**Publication of Notices and Circulars of Interest to Shipping.**

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

**Current Net Prices on Coal, Fuel Oil, and Diesel Oil.**

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or less than 50 tons, the price is \$15 per ton at Cristobal, \$18 at Balboa.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

**Empty Barrels For Sale.**

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

**Invitation for Proposals to Furnish Native Logs to The Panama Canal.**

Sealed bids will be received in the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., until 10.30 a. m. Wednesday, February 15, 1922, and then opened, for furnishing The Panama Canal 300,000 feet B. M., more or less, native logs, during a period of one year from date of contract, in accordance with form of agreement, copies of which may be had upon application to the office of the Chief Quartermaster.

Bids must be inclosed in sealed envelope, addressed to The Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., and marked "Proposal for furnishing native logs, to be opened February 15, 1922."

The Panama Canal reserves the right to reject any or all bids.

The successful bidder will be given the first option to purchase, if desired, the launch *Mecca*, and other logging equipment formerly used by The Panama Canal, at reasonable appraised prices. This launch was built for logging purposes and is particularly suitable for same. Launch may be inspected at Monte Lirio.

**Certificate.**

By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business,

**MOVEMENTS OF OCEAN VESSELS.—Continued from page 343.**

PORT OF CRISTOBAL—continued.

| *ARRIVALS. |                            |                                 |                         | *DEPARTURES.    |                           |                                 |                        |
|------------|----------------------------|---------------------------------|-------------------------|-----------------|---------------------------|---------------------------------|------------------------|
| Date.      | Vessel.                    | Line.                           | From—                   | Date.           | Vessel.                   | Line.                           | For—                   |
| Feb. 1.    | Gladiator.                 | Harrison Steamship Line.        | Liverpool via wayports. | Feb. 3.         | Gen. W. C. Gorgas.        | Panama Railroad Steamship Line. | New York via Haiti.    |
| Feb. 2.    | Abangarez.                 | United Fruit Co.                | Bocas del Toro.         | Feb. 4.         | Tolosa.                   | United Fruit Co.                | New York via wayports. |
| Feb. 2.    | Tolosa.                    | United Fruit Co.                | New York via wayports.  | Feb. 4.         | Camito.                   | Elders & Fyffes, Ltd.           | Kingston.              |
| Feb. 3.    | Solana.                    | Pacific Mail Steamship Co.      | Tampico.                | Feb. 4.         | Oranje Nassau.            | Royal Netherlands W. I. Mail    | Puerto Colombia.       |
| Feb. 4.    | Panama.                    | Panama Railroad Steamship Line. | New York via Haiti.     |                 |                           |                                 |                        |
| Feb. 4.    | Panama.                    | Panama Railroad Steamship Line. | Port Limon.             |                 |                           |                                 |                        |
| Feb. 4.    | Camito.                    | Royal Netherlands W. I. Mail.   | Port Limon.             |                 |                           |                                 |                        |
| Feb. 4.    | Camito.                    | Elders & Fyffes, Ltd.           | Port Limon.             |                 |                           |                                 |                        |
|            |                            |                                 |                         | PORT OF BALBOA. |                           |                                 |                        |
| Jan. 29.   | Galveston <sup>11</sup> .  | United States Navy.             | Corinto.                | Jan. 31.        | Galveston <sup>11</sup> . | United States Navy.             | Corinto.               |
| Jan. 30.   | Hwah Ping.                 | Chinese Government.             | Hongkong.               | Jan. 31.        | Hwah Ping.                | Chinese Government.             | Callao.                |
| Jan. 30.   | Romulus.                   | A. O. Lindvig.                  | San Francisco.          | Feb. 1.         | Romulus.                  | A. O. Lindvig.                  | Vancouver and Tacoma.  |
| Feb. 1.    | Leland "P" <sup>14</sup> . | C. Oswald & Co.                 |                         |                 |                           |                                 |                        |

<sup>11</sup> Motor boat.<sup>13</sup> Cruiser.

\* Other than ships passing through the Canal.



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Volume XV. Balboa Heights, C. Z., February 15, 1922. No. 27.

## Commodity Statistics.

The following were the most important items of cargo moving from Atlantic to Pacific in 1921:

|                                     | <i>Tons.</i> |
|-------------------------------------|--------------|
| Crude oil.....                      | 900,410      |
| Manufactures of iron and steel..... | 697,210      |
| Coal.....                           | 539,351      |
| Refined oil.....                    | 461,085      |
| Cotton.....                         | 196,329      |
| Sulphur.....                        | 108,415      |

As compared with the figures for 1920, which were not, however, so minutely and accurately compiled, there has been an increase in the shipments of crude and refined oil and of manufactures of iron and steel, while coal shipments have fallen off. Approximately 25 per cent of the coal shipped in 1921 was British, whereas in the previous year, although no accurate figures are available, it is probable that practically all the coal moving south through the Canal was American. It is impossible to make an accurate comparison in the case of cotton and sulphur.

Other commodities which in 1921 contributed more than 20,000 although less than 100,000 tons each to the traffic from Atlantic to Pacific were: Sugar, railroad materials, machinery, iron, ammonia, and tobacco.

## PACIFIC TO ATLANTIC.

The principal commodities moving from Pacific to Atlantic were:

|                          | <i>Tons.</i> |
|--------------------------|--------------|
| Nitrate.....             | 991,767      |
| Wheat.....               | 914,877      |
| Lumber.....              | 448,087      |
| Barley.....              | 435,481      |
| Sugar.....               | 270,952      |
| Flour.....               | 177,977      |
| Refined oil.....         | 147,573      |
| Canned fruit.....        | 143,188      |
| Copper.....              | 135,073      |
| Refrigerated mutton..... | 128,515      |
| Canned fish.....         | 107,188      |
| Wool.....                | 107,075      |

A comparison with the previous year is possible only in the case of a few of these items. Nitrate shipments in 1920 totaled 1,995,906 tons; flour, 487,614; wheat, 318,944; lumber, 205,172; and sugar, 127,995.

Other commodities which contributed in 1921 less than 100,000 but more than 20,000 tons each to the traffic from Pacific to Atlantic were: Coffee, phosphates, rice, refrigerated beef, copper ore, cotton, refrigerated cheese, dried fruit, cacao, copra, oats, crude oil, cotton seed, lubricating oil, refrigerated butter, skins and hides, cottonseed oil cake, coconut oil, and ivory nuts.

Details of the origin and distribution of commodities, by trade areas, are presented in the following tables:

## Classification of Cargo Passing Through the Panama Canal, Showing Origin and Destination of Same, Calendar Year 1921.

## COMMODITY STATISTICS.

## ATLANTIC TO PACIFIC.

(Figures represent tons of 2,240 pounds.)

| Commodity.               | From—        |                              |         |                       |                  |                 | To—            |                              |                              |                |           |              |                       |                                |               |                |
|--------------------------|--------------|------------------------------|---------|-----------------------|------------------|-----------------|----------------|------------------------------|------------------------------|----------------|-----------|--------------|-----------------------|--------------------------------|---------------|----------------|
|                          | West Indies. | East coast of South America. | Canada. | East coast of Mexico. | Cristobal, C. Z. | Other European. | British Isles. | East coast of United States. | West coast of South America. | United States. | Far East. | Australasia. | West coast of Canada. | West coast of Central America. | Balboa, C. Z. | Miscellaneous. |
| Agricultural implements. |              |                              |         |                       |                  |                 |                |                              |                              |                |           |              |                       |                                |               |                |
| Alcohol.                 |              |                              |         |                       | 26               | 251             | 513            | 11,960                       | 3,269                        | 1,960          | 1,333     | 6,115        | 61                    | 12                             |               |                |
| Ammonia.                 |              |                              |         |                       | 53               |                 |                | 593                          |                              | 583            | 53        | 10           |                       |                                |               |                |
| Ammonia.                 |              |                              |         |                       |                  |                 | 2,500          | 722                          | 2,500                        | 2,926          | 42,816    | 2,387        |                       |                                |               |                |
| Asbestos.                |              |                              | 134     |                       |                  | 2,304           | 10             | 47,390                       |                              |                |           | 144          |                       |                                |               |                |
| Asphalt.                 |              |                              | 1       |                       |                  |                 | 20             | 3,030                        | 422                          |                | 2,355     | 274          |                       |                                |               |                |
| Automobiles.             |              |                              | 449     |                       | 37               | 500             | 1,204          | 4,703                        | 609                          | 804            | 1,607     | 3,830        | 7                     | 36                             |               |                |
| Auto accessories.        |              |                              | 330     |                       | 5                |                 |                | 309                          | 21                           | 278            | 15        | 330          |                       |                                |               |                |
| Aerated waters.          |              |                              |         |                       |                  | 7               |                | 175                          | 14                           | 168            |           |              |                       |                                |               |                |
| Aeroplanes.              |              |                              |         |                       |                  |                 |                | 100                          |                              | 100            |           |              |                       |                                |               |                |
| Balsam.                  |              |                              |         |                       |                  |                 |                | 3                            |                              |                |           |              |                       |                                |               |                |
| Bark, ground.            |              |                              |         |                       |                  |                 |                | 15                           |                              |                | 15        |              |                       |                                |               |                |
| Beeswax.                 |              |                              |         |                       |                  |                 |                | 300                          |                              |                | 300       |              |                       |                                |               |                |
| Blood and tannage.       |              |                              |         |                       |                  |                 |                |                              |                              | 2,863          | 92        |              |                       |                                |               |                |
| Borax.                   |              |                              |         |                       |                  | 4               | 40             | 18                           | 4                            |                | 18        | 40           |                       |                                |               |                |
| Bricks, fire.            |              |                              |         |                       |                  | 708             | 459            | 160                          | 1,037                        | 290            |           |              |                       |                                |               |                |
| Bricks.                  |              |                              |         |                       |                  |                 |                | 30                           |                              | 30             |           |              |                       |                                |               |                |
| Beans.                   |              |                              |         |                       |                  |                 |                | 70                           |                              |                |           | 70           |                       |                                |               |                |
| Bismuth.                 |              |                              |         |                       |                  |                 |                |                              |                              |                |           |              |                       |                                |               |                |
| Bone meal.               |              |                              |         |                       |                  |                 |                |                              |                              | 150            |           |              |                       |                                |               |                |
| Canned goods:            |              |                              |         |                       |                  |                 |                |                              |                              |                |           |              |                       |                                |               |                |
| Fish.                    |              |                              | 2       |                       | 6                | 580             | 132            | 2,562                        | 271                          | 2,823          |           | 129          | 2                     | 57                             |               |                |
| Fruit.                   |              |                              |         |                       | 70               | 54              | 234            | 1,395                        | 153                          | 1,379          |           | 221          |                       |                                |               |                |
| Meat.                    |              |                              |         |                       | 33               | 315             | 240            | 586                          | 100                          | 1,033          | 13        | 40           |                       | 1                              |               |                |
| Milk.                    |              |                              |         |                       | 5                |                 |                | 1,084                        | 273                          | 15             | 801       |              |                       |                                |               |                |
| Vegetables.              |              |                              | 250     |                       | 203              | 268             | 111            | 6,436                        | 371                          | 6,567          |           | 30           | 272                   | 25                             |               |                |
| Other.                   |              |                              |         |                       |                  |                 | 286            | 3,389                        | 378                          | 3,189          | 100       |              | 8                     |                                |               | 3              |
| Calcium.                 |              |                              | 1,630   |                       |                  | 42              |                | 186                          |                              | 228            |           | 1,630        |                       |                                |               |                |
| Canary seed.             |              |                              |         |                       |                  |                 |                |                              |                              | 424            |           |              |                       |                                |               |                |
| Carbon.                  |              |                              |         |                       |                  |                 |                | 401                          |                              |                | 401       |              |                       |                                |               |                |
| Caustic soda.            |              |                              |         |                       | 2                |                 | 420            | 183                          | 81                           | 394            | 130       |              |                       |                                |               |                |
| Cement.                  |              |                              |         |                       | 439              | 29,178          | 13,890         | 19,275                       | 49,985                       | 2,390          | 1,621     | 5,927        | 67                    | 1,343                          | 1,449         |                |
| Cereals.                 |              |                              |         |                       |                  |                 |                | 181                          | 30                           | 106            | 45        |              |                       |                                |               |                |
| Chalk.                   |              |                              |         |                       |                  | 3,414           | 174            |                              | 7                            | 3,581          |           |              |                       |                                |               |                |
| Chemicals.               |              |                              |         |                       |                  | 1,867           | 1,733          | 3,889                        | 2,382                        | 3,035          | 1,181     | 1,002        | 30                    | 93                             |               |                |
| China clay.              |              |                              | 1       |                       |                  |                 | 1,162          |                              |                              | 1,162          |           |              |                       |                                |               | 1              |

|                         | 108       | 159 | 7,946  | 139,667 | 392,179 | 255,549 | 108 | 42,138 | 14,175 | 142,605 | 1,645 | 2,997 | 64,493 | 15,749 |
|-------------------------|-----------|-----|--------|---------|---------|---------|-----|--------|--------|---------|-------|-------|--------|--------|
| Chocolate.....          | 539,351   |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Coal.....               | 2,017     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Coal tar.....           | 90        | 41  |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Cocoa.....              | 10        |     | 27     | 940     | 697     | 27      | 108 | 130    |        |         |       |       |        |        |
| Coconuts.....           | 14,977    | 230 | 11,660 | 88      | 467     | 104     | 108 | 130    |        |         |       |       |        |        |
| Coffee.....             | 185       |     |        | 130     | 55      | 175     | 108 | 130    |        |         |       |       |        |        |
| Coke.....               |           |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Cold storage:           |           |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Beef.....               | 2         |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Butter.....             | 142       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Lard.....               | 3,191     | 2   |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Tallow.....             | 43        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Other.....              | 136       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Copper sulphate.....    | 10        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Cork.....               | 520       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Corn.....               | 1,178     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Cotton.....             | 196,329   |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Cotton seed.....        | 1,268     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Cressote.....           | 5,025     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Crockery.....           | 100       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Crocery.....            | 41        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Dye.....                | 930       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Dyewoods.....           | 93        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Earthenware.....        | 195       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Epsom salts.....        | 61        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Explosives.....         | 422       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Extract, Quebracho..... | 1,565     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Flour.....              | 1,180     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Fruits, dried.....      | 686       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Fertilizer.....         | 2,403     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Fuller's earth.....     | 2,171     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| General.....            | 1,268,324 |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Glass.....              | 16,461    |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Glucose.....            | 4,038     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Gum.....                | 13        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Graphite.....           | 1,654     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Guanine.....            | 442       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Glycerin.....           | 159       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Hair.....               | 529       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Hemp.....               | 72        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Ink.....                | 81        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Infusorial earth.....   | 36        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Ivory meal.....         | 159       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Jute.....               | 65        |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Indigo.....             | 8         |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Lamblack.....           | 8         |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Leather.....            | 611       |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Linac acetate.....      | 1,916     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Linoleum.....           | 1,040     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Liquors.....            | 12,437    |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Live stock.....         | 2,096     |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |
| Lumber.....             |           |     |        |         |         |         | 108 | 130    |        |         |       |       |        |        |

**COMMODITY STATISTICS.—ATLANTIC TO PACIFIC—Continued.**  
(Figures represent tons of 2,240 pounds.)

| Commodity.           | Total.  | From—        |                              |         |                       |                  |                 | To—            |                              |                              |                |           |              |                       |                  |               |                |
|----------------------|---------|--------------|------------------------------|---------|-----------------------|------------------|-----------------|----------------|------------------------------|------------------------------|----------------|-----------|--------------|-----------------------|------------------|---------------|----------------|
|                      |         | West Indies. | East coast of South America. | Canada. | East coast of Mexico. | Cristobal, C. Z. | Other European. | British Isles. | East coast of United States. | West coast of South America. | United States. | Far East. | Australasia. | West coast of Canada. | Central America. | Balboa, C. Z. | Miscellaneous. |
| Manufactured goods:  |         |              |                              |         |                       |                  |                 |                |                              |                              |                |           |              |                       |                  |               |                |
| Iron and steel       | 697,210 |              |                              | 3,367   |                       | 3,481            | 23,809          | 32,981         | 633,572                      | 83,360                       | 276,138        | 261,299   | 60,395       | 3,286                 | 3,551            | 305           | 8,876          |
| Machinery            | 83,757  | 16           |                              |         |                       | 811              | 4,370           | 11,349         | 67,211                       | 21,772                       | 11,211         | 33,439    | 16,165       | 350                   | 713              | 7             | 100            |
| Railroad material    | 85,187  |              |                              |         |                       | 363              | 5,155           | 9,632          | 70,637                       | 11,759                       | 8,764          | 52,727    | 11,362       | 170                   | 305              |               | 100            |
| Textiles             | 19,761  |              | 2                            |         |                       | 1,731            | 2,249           | 5,088          | 10,691                       | 8,137                        | 5,419          | 1,631     | 2,866        | 94                    | 375              |               | 1,239          |
| Other                | 66,526  |              | 13                           | 20      |                       | 1,212            | 1,735           | 11,072         | 52,474                       | 8,928                        | 38,494         | 9,760     | 7,716        | 834                   | 794              |               |                |
| Marble               | 1,223   |              |                              |         |                       |                  | 1,191           |                | 32                           | 1,161                        | 50             | 12        |              |                       |                  |               |                |
| Matches              | 72      |              |                              |         |                       |                  | 40              | 20             | 12                           | 11                           |                |           | 20           |                       | 29               |               |                |
| Metals:              |         |              |                              |         |                       |                  |                 |                |                              |                              |                |           |              |                       |                  |               |                |
| Aluminum             | 336     |              |                              |         |                       |                  |                 |                | 336                          |                              |                | 336       |              |                       |                  |               |                |
| Copper               | 12,253  |              |                              |         |                       | 1                |                 | 184            | 12,068                       | 31                           | 547            | 11,519    | 154          |                       |                  |               | 2              |
| Iron                 | 51,967  |              |                              | 670     |                       | 53               | 28,518          | 3,301          | 19,425                       | 1,875                        | 24,454         | 16,294    | 7,695        | 1,596                 | 53               |               |                |
| Lead                 | 422     |              |                              |         |                       |                  | 20              | 152            | 250                          | 20                           | 56             | 194       | 151          | 1                     |                  |               |                |
| Nickel               | 228     |              |                              |         |                       | 3                |                 | 10             | 215                          | 13                           |                | 215       |              |                       |                  |               |                |
| Silver               | 66      |              |                              |         |                       |                  |                 |                | 66                           |                              |                |           |              |                       |                  |               |                |
| Tin                  | 27,260  |              |                              |         |                       | 37               | 9               | 504            | 26,710                       | 600                          | 12,752         | 11,362    | 587          | 50                    | 37               |               | 11,803         |
| Zinc                 | 1,100   |              |                              |         |                       |                  | 475             | 33             | 2,472                        | 161                          | 475            | 1,636     |              | 2                     |                  |               |                |
| Other                | 2,653   |              |                              |         |                       |                  | 148             |                | 100                          | 100                          | 856            |           |              |                       |                  |               |                |
| Milk, powdered       | 100     |              |                              |         |                       |                  | 8               |                | 100                          | 8                            | 486            |           | 2            |                       |                  |               | 9              |
| Musical instruments. | 505     |              |                              |         |                       |                  |                 |                | 497                          | 8                            |                |           |              |                       |                  |               |                |
| Mal.                 | 117     |              |                              |         |                       |                  |                 |                | 117                          | 117                          |                |           |              |                       |                  |               |                |
| Nuts                 | 296     |              |                              |         |                       |                  |                 | 66             | 64                           |                              | 206            |           |              |                       |                  |               |                |
| Nitrate.             | 1,152   |              | 166                          |         |                       |                  | 1,101           |                | 51                           | 1                            | 1,100          | 51        |              |                       |                  |               |                |
| Oils:                |         |              |                              |         |                       |                  |                 |                |                              |                              |                |           |              |                       |                  |               |                |
| Cruel.               | 900,410 | 7,943        |                              | 766,756 |                       | 103              | 110             | 35             | 125,463                      | 350,817                      | 222,903        | 107,870   | 9,034        | 73,136                | 9,405            | 118,474       | 8,771          |
| Coconut.             | 2       |              |                              |         |                       |                  |                 | 2              |                              |                              |                |           | 2            |                       |                  |               |                |
| Cottonseed           | 813     |              |                              |         |                       |                  |                 |                | 813                          | 125                          | 688            |           |              |                       |                  |               |                |
| Linseed              | 6,308   |              |                              |         |                       | 3                | 1,724           | 3,320          | 1,261                        | 5                            | 5,916          | 50        | 277          | 60                    |                  |               |                |
| Olive.               | 991     |              |                              |         |                       |                  | 779             |                | 212                          | 447                          | 330            |           |              | 34                    |                  |               |                |
| Pine.                | 338     |              |                              |         |                       |                  |                 |                | 338                          |                              | 338            |           |              |                       |                  |               |                |
| Refined.             | 461,085 |              |                              |         |                       | 87               | 315             | 952            | 455,580                      | 10,626                       | 45,129         | 264,989   | 139,789      | 18                    | 534              |               |                |
| Vegetable.           | 2,888   |              |                              |         |                       | 52               | 246             | 1,740          | 836                          |                              | 1,146          | 531       | 375          |                       |                  |               |                |
| Ore:                 |         |              |                              |         |                       |                  |                 |                |                              |                              |                |           |              |                       |                  |               |                |
| Copper.              | 481     |              |                              |         |                       |                  |                 | 30             | 451                          |                              | 101            | 350       | 30           |                       |                  |               |                |
| Cyanide              | 500     |              |                              |         |                       |                  |                 |                | 500                          |                              | 500            |           |              |                       |                  |               |                |
| Iron.                | 2,777   |              |                              |         |                       | 43               | 120             | 480            | 2,334                        | 70                           | 2,227          | 218       | 480          | 5                     |                  |               |                |
| Manganese            | 620     |              |                              |         |                       |                  | 5               | 397            | 218                          | 20                           | 397            |           |              |                       |                  |               |                |
| Lead                 | 20      |              |                              |         |                       |                  |                 |                | 20                           |                              |                |           |              |                       |                  |               |                |



[illegible]

## COMMODITY STATISTICS.—PACIFIC TO ATLANTIC.

(Figures represent tons of 2,240 pounds.)

| Commodity.               | From—          |                   |                                |                       |              |           | To—                          |                              |                              |                |                 |                  |                       |              |                |
|--------------------------|----------------|-------------------|--------------------------------|-----------------------|--------------|-----------|------------------------------|------------------------------|------------------------------|----------------|-----------------|------------------|-----------------------|--------------|----------------|
|                          | Miscellaneous. | Hawaiian Islands. | West coast of Central America. | West coast of Canada. | Australasia. | Far East. | West coast of United States. | West coast of South America. | East coast of United States. | British Isles. | Other European. | Cristobal, C. Z. | East coast of Canada. | West Indies. | Miscellaneous. |
| Total.                   | 396            |                   |                                | 26                    | 22           |           | 150                          | 220                          | 148                          | 248            |                 |                  |                       |              |                |
| Agricultural implements. | 22             |                   |                                |                       |              |           |                              |                              | 235                          | 22             |                 |                  |                       |              |                |
| Abrasive.                | 242            |                   | 7                              |                       |              |           | 235                          |                              |                              |                |                 | 7                |                       |              |                |
| Alcohol.                 | 132            |                   |                                |                       |              |           |                              | 132                          |                              |                |                 |                  |                       |              |                |
| Alpaca.                  | 225            |                   |                                |                       |              |           | 225                          |                              | 85                           | 40             |                 |                  |                       |              | 100            |
| Asphalt.                 | 179            |                   |                                |                       | 31           | 19        | 53                           | 71                           | 109                          | 48             | 21              | 1                |                       |              |                |
| Automobiles.             | 279            |                   | 5                              |                       |              |           | 279                          |                              | 276                          |                | 3               |                  |                       |              |                |
| Auto accessories.        | 248            |                   |                                |                       |              |           |                              | 248                          |                              | 248            |                 |                  |                       |              |                |
| Algarobilla.             | 154            |                   |                                |                       |              | 154       |                              |                              | 154                          |                |                 |                  |                       |              |                |
| Alumina.                 | 39             |                   | 37                             |                       |              |           | 2                            |                              | 7                            |                | 5               | 27               |                       |              | 150            |
| Balsam.                  | 571            |                   | 2                              |                       |              |           |                              | 569                          | 419                          |                |                 | 2                |                       |              |                |
| Balsa wood               |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Bark.                    |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Cacana-cacarella         | 245            |                   |                                | 10                    | 14           |           | 199                          | 22                           | 135                          | 70             | 18              | 22               |                       |              |                |
| Cachalona.               | 33             |                   |                                |                       | 4            |           | 2                            | 27                           | 11                           |                | 2               | 20               |                       |              |                |
| Peruvian.                | 104            |                   |                                |                       |              |           |                              | 104                          | 1                            | 62             | 43              | 88               |                       |              |                |
| Quilay.                  | 981            |                   |                                |                       |              |           |                              | 981                          | 20                           | 190            | 767             | 4                |                       |              |                |
| Barley.                  | 435,481        |                   |                                |                       | 48           |           | 392,112                      | 43,321                       | 1,075                        | 284,820        | 149,512         | 20               |                       | 54           |                |
| Beans.                   | 68,179         |                   |                                |                       | 3,801        | 12,094    | 34,807                       | 17,477                       | 28,251                       | 5,991          | 25,189          | 108              |                       | 8,640        |                |
| Beeswax.                 | 1,422          |                   |                                |                       |              |           | 880                          | 572                          | 892                          | 526            | 2               | 4                |                       |              |                |
| Bismuth.                 | 2              |                   |                                |                       |              |           |                              | 2                            |                              | 2              |                 |                  |                       |              |                |
| Borax.                   | 20,321         |                   |                                |                       |              |           | 5,294                        | 15,027                       | 5,001                        | 8,504          | 6,816           |                  |                       |              |                |
| Bran.                    | 1,438          |                   |                                |                       |              |           |                              |                              |                              | 812            | 676             |                  |                       |              |                |
| Bristles.                | 383            |                   |                                |                       |              | 334       | 49                           |                              | 378                          | 5              |                 |                  |                       |              |                |
| Bristol wood.            | 33             |                   |                                |                       |              | 33        |                              |                              | 33                           |                |                 |                  | 30                    |              |                |
| Bricks.                  | 30             |                   |                                | 30                    |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Bark.                    |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Condurango               | 2              |                   |                                |                       |              |           |                              | 2                            |                              |                |                 | 2                |                       |              |                |
| Other                    | 7              |                   |                                |                       | 7            |           |                              |                              |                              | 7              |                 |                  |                       |              |                |
| Bamboo.                  | 14             |                   |                                |                       |              |           | 14                           |                              | 14                           | 611            | 3,954           | 18,453           |                       |              | 138            |
| Cacao.                   | 37,269         |                   | 35                             |                       | 47           | 838       | 1,556                        | 35,631                       | 838                          |                |                 |                  |                       |              |                |
| Camphor.                 | 838            |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Canned goods:            |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Fish.                    | 107,188        |                   |                                | 16,530                |              | 10,899    | 79,709                       |                              | 50,235                       | 37,308         | 19,331          |                  |                       | 239          | 75             |
| Fruit.                   | 143,188        |                   | 82                             | 1,249                 | 340          | 177       | 121,742                      | 130                          | 81,311                       | 44,118         | 17,444          | 8                |                       | 107          | 200            |
| Meats.                   | 3,493          |                   |                                | 7                     | 1,890        | 42        | 1,438                        | 116                          | 1,113                        | 2,030          | 339             | 9                |                       |              | 2              |
| Milk.                    | 7,037          |                   |                                | 156                   | 600          |           | 6,281                        |                              | 3,580                        | 3,182          | 325             |                  |                       |              |                |
| Vegetables.              | 5,917          |                   |                                |                       |              | 5         | 5,903                        | 4                            | 5,627                        | 17             | 49              | 5                |                       | 219          |                |
| Other.                   | 6,828          |                   |                                | 2                     | 42           |           | 6,778                        | 6                            | 6,491                        | 106            | 223             | 8                |                       |              |                |

[illegible]

**COMMODITY STATISTICS.—PACIFIC TO ATLANTIC—Continued.**  
(Figures represent tons of 2,240 pounds.)

| Commodity.             | From—          |                   |                                |                       |              |           |                              | To—                          |                              |                |                 |                  |                       |              |                |        |
|------------------------|----------------|-------------------|--------------------------------|-----------------------|--------------|-----------|------------------------------|------------------------------|------------------------------|----------------|-----------------|------------------|-----------------------|--------------|----------------|--------|
|                        | Miscellaneous. | Hawaiian Islands. | West coast of Central America. | West coast of Canada. | Australasia. | Far East. | West coast of United States. | West coast of South America. | East coast of United States. | British Isles. | Other European. | Cristobal, C. Z. | East coast of Canada. | West Indies. | Miscellaneous. |        |
| Total.                 | 100            |                   |                                |                       |              |           | 100                          |                              |                              | 100            |                 |                  |                       |              |                |        |
| Gum, copal.....        | 185            |                   |                                |                       |              |           | 185                          |                              |                              |                | 185             |                  |                       |              |                |        |
| Graphite.....          | 18             |                   |                                |                       |              |           | 18                           |                              | 1                            | 137            | 10              | 1                |                       |              |                |        |
| Hair.....              | 148            |                   |                                |                       |              |           | 29                           |                              |                              | 873            |                 |                  |                       |              |                |        |
| Hardwoods.....         | 3,925          |                   |                                | 755                   |              | 10        | 763                          |                              | 694                          | 1,174          | 1,174           | 737              |                       |              |                |        |
| Rats.....              | 278            |                   |                                |                       |              |           | 1                            |                              | 105                          | 194            | 9               | 65               |                       |              |                | 530    |
| Hay.....               | 4,532          |                   |                                |                       |              | 70        |                              |                              | 226                          | 4,233          | 70              | 226              |                       |              | 3              | 1      |
| Hemp.....              | 13,855         |                   |                                |                       |              |           | 6,955                        |                              | 264                          | 9,749          | 3,905           | 195              |                       |              |                |        |
| Honey.....             | 1,487          |                   |                                |                       |              | 4,976     |                              |                              | 790                          | 576            | 260             | 632              | 19                    |              |                |        |
| Hops.....              | 4,276          |                   |                                |                       | 384          |           |                              |                              | 4,000                        | 15             | 161             | 4,100            |                       |              |                |        |
| Horns and hoofs.....   | 457            |                   |                                |                       |              |           |                              |                              | 323                          | 49             | 91              | 309              | 8                     |              |                |        |
| Indigo.....            | 86             |                   |                                | 76                    |              | 91        |                              |                              | 10                           | 3              | 7               | 76               |                       |              |                |        |
| Infusorial earth.....  | 1,849          |                   |                                |                       |              |           |                              |                              |                              | 1,849          |                 |                  |                       |              |                |        |
| Ink.....               | 54             |                   |                                |                       |              |           |                              |                              |                              | 54             |                 |                  |                       |              |                |        |
| Iodine.....            | 574            |                   |                                |                       |              |           | 9                            |                              | 565                          | 182            | 251             | 141              |                       |              |                |        |
| Ivory nuts.....        | 22,473         | 85                |                                |                       |              | 5         | 1                            |                              | 22,282                       | 8,838          | 394             | 5,723            | 7,518                 |              |                |        |
| June.....              | 923            | 913               | 1                              |                       |              |           | 840                          |                              | 29                           |                | 869             |                  | 54                    |              |                |        |
| Leather.....           | 220            |                   |                                |                       |              |           | 10                           |                              | 127                          | 93             |                 | 112              | 15                    |              |                |        |
| Licorice roots.....    | 7,623          |                   |                                |                       |              |           | 7,623                        |                              |                              | 7,623          |                 |                  |                       |              |                |        |
| Lime.....              | 73             |                   |                                |                       |              |           |                              | 73                           |                              |                |                 |                  |                       |              |                |        |
| Liquors.....           | 558            |                   |                                | 2                     | 8            | 165       | 84                           | 94                           | 205                          | 172            | 186             | 1                | 189                   |              | 10             |        |
| Live stock.....        | 3,380          |                   |                                |                       |              |           |                              |                              |                              | 2,000          |                 |                  |                       |              | 1,380          |        |
| Lumber.....            | 448,087        |                   |                                | 478                   | 57,429       | 676       | 888                          | 387,993                      | 623                          | 346,249        | 60,048          | 11,895           | 642                   | 4,917        | 2,193          | 22,143 |
| Linoleum.....          | 386            |                   |                                |                       |              |           | 358                          | 28                           |                              | 386            |                 |                  |                       |              |                |        |
| Manufactured goods:    |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |        |
| Iron and steel.....    | 1,483          |                   |                                | 3                     | 58           | 47        | 59                           | 1,235                        | 81                           | 792            | 85              | 157              | 5                     |              |                | 444    |
| Machinery.....         | 3,011          |                   |                                | 879                   | 6            | 40        | 28                           | 1,412                        | 646                          | 821            | 392             | 11               | 613                   | 4            | 20             | 1,150  |
| Railroad material..... | 248            |                   |                                |                       |              |           |                              | 37                           | 211                          | 248            |                 |                  |                       |              |                |        |
| Textiles.....          | 1,022          |                   |                                |                       |              | 50        | 100                          | 18                           | 854                          | 166            | 852             |                  |                       |              |                |        |
| Other.....             | 3,945          |                   |                                | 6                     |              |           | 1,112                        | 2,417                        | 10                           | 2,050          | 906             | 333              | 56                    |              |                | 200    |
| Metals:                |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |        |
| Antimony.....          | 640            |                   |                                |                       |              |           | 640                          |                              |                              | 640            |                 |                  |                       |              |                |        |
| Copper.....            | 135,073        |                   |                                |                       | 11,111       | 2,911     | 298                          | 38,221                       | 81,532                       | 83,816         | 5,736           | 13,666           | 31,855                |              |                |        |
| Iron.....              | 1,040          |                   |                                |                       |              |           |                              | 940                          | 100                          | 1,040          |                 |                  |                       |              |                |        |
| Lead.....              | 5,164          |                   |                                | 200                   |              | 1,350     |                              | 3,898                        | 716                          | 2,898          | 2,190           |                  | 76                    |              |                |        |
| Nickel.....            | 125            |                   |                                | 125                   |              |           |                              |                              |                              | 100            | 25              |                  |                       |              |                |        |
| Silver and gold.....   | 892            |                   |                                | 9                     |              |           |                              |                              | 883                          | 633            | 206             |                  | 53                    |              |                |        |
| Tin.....               | 9,216          |                   |                                |                       |              |           |                              |                              | 8,363                        | 4,176          | 3,404           | 1,534            | 102                   |              |                |        |
| Zinc.....              | 400            |                   |                                |                       | 135          |           | 718                          |                              | 60                           | 682            | 697             | 382              | 231                   |              |                |        |
| Others.....            | 1,992          |                   |                                |                       | 340          |           | 386                          |                              | 1,606                        |                |                 |                  |                       |              |                |        |



[illegible]

**COMMODITY STATISTICS.—PACIFIC TO ATLANTIC—Continued.**  
(Figures represent tons of 2,240 pounds.)

| Commodity.      | From—     |                |                   |                                |                       |              |           | To—                          |                              |                              |                |                 |                  |                       |              |                |
|-----------------|-----------|----------------|-------------------|--------------------------------|-----------------------|--------------|-----------|------------------------------|------------------------------|------------------------------|----------------|-----------------|------------------|-----------------------|--------------|----------------|
|                 | Total.    | Miscellaneous. | Hawaiian Islands. | West coast of Central America. | West coast of Canada. | Australasia. | Far East. | West coast of United States. | West coast of South America. | East coast of United States. | British Isles. | Other European. | Cristobal, C. Z. | East coast of Canada. | West Indies. | Miscellaneous. |
| Rags            | 158       |                |                   |                                |                       |              |           | 158                          |                              |                              | 158            |                 |                  |                       |              |                |
| Sand            | 20        |                |                   |                                |                       | 20           |           | 20                           |                              |                              | 20             |                 |                  |                       |              |                |
| Salt            | 129       |                |                   |                                |                       |              |           | 129                          | 409                          |                              |                | 409             |                  |                       |              |                |
| Saltpeter       | 409       |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Seed:           |           |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Clover          | 1,976     |                |                   |                                |                       | 21           | 130       | 32                           | 1,793                        | 323                          | 1,498          | 155             |                  |                       |              |                |
| Grass           | 109       |                |                   |                                |                       | 100          |           |                              | 443                          | 63                           | 261            | 646             |                  |                       |              |                |
| Hemp            | 970       |                |                   |                                |                       |              | 527       | 106                          |                              | 375                          |                |                 |                  |                       |              |                |
| Mustard         | 375       |                |                   |                                |                       |              | 269       |                              |                              | 100                          |                | 911             |                  |                       |              |                |
| Sesame.         | 1,011     |                |                   |                                |                       |              | 1,011     |                              |                              | 100                          |                | 76              |                  |                       |              |                |
| Other           | 371       |                |                   |                                |                       | 61           | 140       | 170                          |                              | 276                          | 19             | 23              |                  |                       |              |                |
| Shells          | 75        |                |                   | 3                              |                       | 49           | 3         | 20                           | 29                           | 52                           | 29             | 3               |                  |                       | 200          |                |
| Silk            | 1,378     |                |                   |                                |                       |              | 1,337     | 12                           |                              | 1,146                        |                | 16              |                  |                       |              |                |
| Slate, pencil   | 16        |                |                   |                                |                       |              |           | 16                           |                              |                              |                |                 |                  |                       |              |                |
| Skins and hides | 25,092    | 4              |                   | 555                            | 114                   | 8,744        | 3,630     | 4,173                        | 8,382                        | 12,287                       | 8,851          | 2,310           | 2,042            | 62                    |              | 50             |
| Soap.           | 39        |                |                   |                                |                       |              |           | 37                           | 2                            | 87                           | 30             |                 | 12               |                       |              |                |
| Spices          | 117       |                |                   |                                |                       | 30           | 78        | 9                            |                              | 87                           |                |                 |                  |                       |              |                |
| Sugar           | 270,952   | 6,047          | 115,571           | 882                            |                       |              | 60,453    | 12                           | 87,999                       | 185,977                      | 69,244         | 14,841          | 890              |                       |              |                |
| Syrup           | 14        | 2              |                   |                                |                       |              |           |                              |                              | 14                           |                |                 |                  |                       |              |                |
| Starch          | 91        |                |                   |                                |                       |              | 91        |                              |                              | 91                           |                |                 |                  |                       |              |                |
| Talc            | 399       |                |                   |                                |                       |              |           | 399                          |                              | 399                          |                |                 |                  |                       |              |                |
| Tapioca         | 86        |                |                   |                                |                       |              | 86        |                              |                              | 86                           |                |                 |                  |                       |              |                |
| Tar             | 70        |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Tea             | 11,977    |                |                   |                                |                       |              |           |                              |                              |                              |                |                 |                  |                       |              |                |
| Tobacco         | 576       |                |                   |                                |                       |              | 11,794    | 93                           | 70                           | 11,939                       |                | 70              |                  |                       |              |                |
| Tomato puree    | 855       |                |                   |                                | 1                     | 243          | 277       | 50                           | 5                            | 527                          | 1              | 38              | 2                |                       |              |                |
| Vegetables      | 564       |                |                   |                                |                       |              |           | 855                          |                              | 855                          |                |                 |                  |                       |              |                |
| Walnuts         | 2,641     |                |                   |                                |                       |              |           | 525                          | 39                           | 385                          |                |                 |                  |                       | 140          |                |
| Wax             | 302       |                |                   |                                | 47                    |              | 55        | 1,088                        | 1,451                        | 2,491                        |                |                 |                  |                       |              |                |
| Wheat           | 914,877   |                |                   | 3,590                          | 38,852                |              | 169       | 120                          | 22                           | 285                          | 14             |                 |                  |                       |              |                |
| Wool            | 107,075   |                | 54                |                                |                       |              | 4,890     | 853,884                      | 13,751                       | 50                           | 358,407        | 534,974         | 67               |                       |              | 21,379         |
| Yerba Santa.    | 25        |                |                   |                                |                       |              | 7,207     | 24,288                       | 9,038                        | 41,753                       | 63,393         | 1,219           | 320              | 390                   |              |                |
| Totals          | 5,641,330 | 11,736         | 142,259           | 46,958                         | 112,832               | 604,741      | 291,004   | 2,715,570                    | 1,716,230                    | 2,024,047                    | 1,791,915      | 1,461,659       | 130,773          | 22,314                | 48,652       | 161,970        |

This cargo was routed as follows: East coast of South America, 10,628; Egypt, 9,091; east coast of Mexico, 12,271; Azores for orders, 87,524; West Indies for orders, 32,956; northern Africa, 9,500; total, 161,970.

# Supplement No. 10 to Tariff No. 5.—Coal.—Superseding Supplement No. 7 to Tariff No. 5.

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., February 1, 1922.

## ITEM 21.—COAL.

(Effective February 1, 1922.)

The provisions of Supplement No. 7 to Tariff No. 5 are hereby superseded by the following:

8. Special prices for coal in large quantities as specified below, taken from Cristobal-Colon. alongside Cristobal coaling plant by vessels transiting the Canal:
  - (a) To vessels taking 1,200 tons or over;
  - (b) To vessels taking between 825 and 1,200 tons and bunkering full;
  - (c) To vessels taking 825 or more tons and more than quantity required to bunker full;
 

Price to the above 3 classes, per ton of 2,240 pounds. . . \$10.00
  - (d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at \$10 per ton of 2,240 pounds.
  - (e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at \$10 per ton.
  - (f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds. . . . . 1.00
  - (g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 4 to Tariff No. 5 will apply.

M. L. WALKER,

*Acting Governor, The Panama Canal.*

*Second Vice President, Panama Railroad Company.*

# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending February 4, 1922.

| Name of vessel.        | Line or charterer.                  | Arrived.       | Departed.      | Cargo—     |                  |
|------------------------|-------------------------------------|----------------|----------------|------------|------------------|
|                        |                                     |                |                | Discharged | Laded.           |
|                        |                                     |                |                | Tons.      | Tons.            |
| Oranje Nassau.....     | Royal Netherlands W. I. Mail.....   | January 29.... | January 29.... | 47         | ( <sup>2</sup> ) |
| Abangarez.....         | United Fruit Co.....                | January 29.... | January 30.... | 1          | 31½              |
| Noorderdyk.....        | Holland-American Line.....          | January 29.... | January 30.... | 108        | 108              |
| Quilpue.....           | Pacific Steam Navigation Co.....    | January 29.... | January 31.... | 97         | ( <sup>2</sup> ) |
| Gen. W. C. Gorgas..... | Panama Railroad Steamship Line..... | January 29.... | February 3.... | 1,958      | 2,367            |
| Caribbean.....         | Panama Railroad Steamship Line..... | January 30.... | January 30.... | 340        |                  |
| Parismina.....         | United Fruit Co.....                | January 30.... | February 1.... | 883        | 4                |
| Columbia.....          | N. O. & S. A. Steamship Line.....   | January 31.... | January 31.... | 311        | 81               |
| La Navarre.....        | French Line.....                    | January 31.... | February 3.... | 63         | 184              |
| Balboa.....            | Colombia Maritime Co.....           | January 31.... | February 4.... | 399        | ( <sup>2</sup> ) |
| Jamaica.....           | Pacific Steam Navigation Co.....    | January 31.... | February 4.... | 1          | 116              |
| Tamar.....             | Pacific Steam Navigation Co.....    | February 1.... | February 1.... | 112        |                  |
| Trophon.....           | Anglo-Saxon Petroleum Co.....       | February 1.... | February 3.... | 4,889      | ( <sup>2</sup> ) |
| San Gil.....           | United Fruit Co.....                | February 1.... | February 2.... | 48         | 95               |
| Gladicator.....        | Harrison Line.....                  | February 1.... | February 2.... | 484        | ( <sup>2</sup> ) |
| Abangarez.....         | United Fruit Co.....                | February 2.... | February 2.... | 5          | 1                |
| Barima.....            | Pacific Steam Navigation Co.....    | February 2.... | February 3.... |            | 668              |
| Granfos.....           | Caribbean Steamship Co.....         | February 3.... | February 3.... | 35½        | ( <sup>2</sup> ) |
| Tolosa.....            | United Fruit Co.....                | February 3.... | February 4.... | 357        | 19               |
| Laura C. Hall.....     | Pacific Metals Corporation.....     | February 3.... | February 4.... | 39         | ( <sup>2</sup> ) |
| Imperial.....          | Chilean Line.....                   | February 4.... | February 4.... | 313        |                  |
| Panama.....            | Panama Railroad Steamship Line..... | February 4.... | February 4.... | 1,450      |                  |
| Oranje Nassau.....     | Royal Netherlands W. I. Mail.....   | February 4.... | February 4.... | 100        |                  |
| Camito.....            | Elders & Fyffes, Ltd.....           | February 4.... | February 4.... | 10         | 6                |

\* Packages.

\* No cargo laded.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, February 11, 1922.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Salt water draft. | From— | For— | Cargo.  |              | Panama Canal tonnage. |                  |       |        |       |
|----------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------------------|-------|------|---------|--------------|-----------------------|------------------|-------|--------|-------|
|                      | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |                   |       |      | Nature. | Tons.        | Gross.                | Net.             |       |        |       |
| Bantu                | 4                | 6 42  | 5              | 6 35  | 5                  | 14 35 | 5                | 15 44 | American     | United States Steel Products Co. | 360     | 0     | 47                | 0     | 23   | 6       | New York     | Corral                | General          | 4,997 | 4,605  | 3,047 |
| Eldorado             | 4                | 14 25 | 5              | 6 28  | 5                  | 15 33 | 5                | 16 30 | American     | Swayne & Hoyt                    | 245     | 6     | 42                | 0     | 19   | 0       | New Orleans  | San Francisco         | General          | 2,200 | 2,439  | 1,602 |
| Haley                | 5                | 9 08  | 5              | 9 35  | 5                  | 16 53 | 5                | 17 49 | American     | Admiral Line (S. B.)             | 440     | 0     | 56                | 0     | 27   | 10      | Baltimore    | Seattle               | Tin plate, steel | 9,716 | 8,301  | 6,019 |
| Walter A. Luckenbach | 5                | 12 12 | 5              | 12 35 | 5                  | 19 13 | 5                | 20 07 | American     | Luckenbach Line                  | 446     | 5     | 56                | 1     | 28   | 0       | New York     | Los Angeles           | General          | 3,450 | 8,785  | 6,582 |
| Pakana               | 5                | 11 20 | 6              | 6 30  | 6                  | 14 00 | 6                | 15 35 | British      | Shaw, Saville & Albion Co.       | 477     | 5     | 63                | 1     | 24   | 0       | Southampton  | Australia             | General          | 1,603 | 10,995 | 8,173 |
| Barfield City        | 5                | 18 15 | 6              | 7 30  | 6                  | 16 43 | 6                | 17 55 | American     | United States Steel Products Co. | 424     | 2     | 56                | 2     | 26   | 0       | New York     | Yokohama              | General          | 7,720 | 7,539  | 5,448 |
| Portland             | 5                | 18 22 | 6              | 8 41  | 6                  | 17 43 | 6                | 18 40 | American     | American-Hawaiian Line           | 429     | 2     | 53                | 6     | 26   | 0       | New York     | Los Angeles           | General          | 6,758 | 7,273  | 5,105 |
| Neuqua               | 6                | 6 38  | 6              | 9 10  | 6                  | 19 00 | 6                | 20 00 | Japanese     | Taisho Kisen Kaisha              | 445     | 0     | 58                | 0     | 16   | 0       | Newcastle    | Vancouver             | Ballast          | 8,299 | 5,979  |       |
| Memphis City         | 6                | 7 24  | 6              | 9 40  | 6                  | 19 35 | 6                | 21 35 | American     | United States Steel Products Co. | 424     | 0     | 56                | 0     | 26   | 0       | Mobile       | Yokohama              | Steel            | 7,949 | 7,539  | 5,448 |
| Celebes Maru         | 6                | 6 19  | 6              | 10 40 | 6                  | 21 12 | 6                | 23 50 | Japanese     | Osaka Shosen Kaisha              | 385     | 0     | 51                | 0     | 24   | 3       | New Orleans  | Yokohama              | General          | 5,326 | 6,014  | 4,406 |
| Yayo Maru            | 6                | 7 35  | 6              | 11 07 | 6                  | 21 55 | 7                | 3 00  | Japanese     | Kokusai Kisen Kaisha             | 425     | 0     | 54                | 0     | 27   | 6       | Galveston    | Yokohama              | General          | 9,430 | 6,798  | 5,174 |
| Hatarana             | 7                | 12 01 | 7              | 6 40  | 7                  | 13 57 | 7                | 19 00 | British      | British-India Steam Nav. Co.     | 445     | 0     | 58                | 0     | 26   | 0       | Cardiff      | Auckland              | Coal             | 6,239 | 7,700  | 5,454 |
| Gen. O. H. Ernst     | 5                | 11 57 | 7              | 12 50 | 7                  | 19 25 | 7                | 20 30 | American     | Panama Railroad Steamship Line   | 356     | 4     | 45                | 3     | 18   | 8       | New York     | Guayaquil             | General          | 630   | 4,503  | 2,764 |
| La Habra             | 7                | 20 54 | 8              | 6 50  | 8                  | 15 59 | 8                | 17 15 | Norwegian    | W. Wilhelmsen                    | 424     | 8     | 57                | 0     | 26   | 0       | Tampico      | Antofagasta           | Fuel oil         | 9,200 | 7,053  | 5,051 |
| Hamburg              | 8                | 6 19  | 8              | 7 42  | 8                  | 16 31 | 8                | 17 25 | German       | Kosmos Line                      | 449     | 0     | 58                | 0     | 20   | 0       | Bremen       | Guayaquil             | General          | 2,500 |        |       |
| Nevedan              | 8                | 7 10  | 8              | 8 22  | 8                  | 17 49 | 8                | 19 05 | American     | American-Hawaiian Line           | 368     | 0     | 55                | 0     | 24   | 0       | Galveston    | San Francisco         | Sulphur          | 4,000 | 5,671  | 3,628 |
| Port Bowen           | 8                | 7 26  | 8              | 9 15  | 8                  | 19 07 | 8                | 20 00 | British      | Commonwealth and Dom. Line       | 430     | 0     | 62                | 0     | 24   | 0       | London       | Dunedin               | General          | 1,900 | 10,745 | 7,849 |
| Imperial             | 4                | 16 07 | 8              | 10 16 | 8                  | 18 00 | 8                | 19 05 | Chilean      | South American Steamship Co.     | 336     | 8     | 41                | 2     | 24   | 5       | Cristobal    | Vaparaíso             | General          | 617   | 3,296  | 2,156 |
| Salvador             | 6                | 17 12 | 8              | 10 20 | 8                  | 19 04 | 8                | 21 55 | British      | Pacific Steam Navigation Co.     | 215     | 0     | 33                | 0     | 13   | 10      | Cristobal    | Guayaquil             | General          | 359   | 1,213  | 692   |
| Violetta             | 8                | 23 29 | 9              | 6 38  | 9                  | 12 15 | 9                | 13 55 | American     | J. F. Calvert                    | 400     | 0     | 53                | 0     | 26   | 0       | Cristobal    | Galun Lake            | Ballast          |       |        | 1     |
| Koyo Maru            | 8                | 23 29 | 9              | 6 38  | 9                  | 14 16 | 9                | 15 30 | Japanese     | Toyo Kisen Kaisha                | 380     | 0     | 53                | 0     | 22   | 0       | New Orleans  | Yokohama              | General          | 6,747 | 6,233  | 4,398 |
| Rotarian             | 9                | 7 17  | 9              | 7 35  | 9                  | 15 25 | 9                | 17 20 | American     | Swayne & Hoyt (S. B.)            | 380     | 0     | 53                | 0     | 26   | 0       | Buenos Aires | San Francisco         | General          | 5,506 | 5,660  | 4,174 |
| Liverpool Maru       | 9                | 11 22 | 9              | 11 40 | 9                  | 19 05 | 10               | 0 08  | Japanese     | Kokusai Kisen Kaisha             | 385     | 0     | 51                | 0     | 26   | 0       | New Orleans  | Yokohama              | General          | 6,522 | 6,235  | 4,400 |
| Palm Branch          | 9                | 7 45  | 10             | 6 30  | 10                 | 13 50 |                  |       | British      | F. and W. Ritten                 | 360     | 0     | 45                | 0     | 18   | 0       | Glasgow      | Guayaquil             | General          | 2,533 | 4,161  | 3,133 |
| City of Canton       | 9                | 16 56 | 10             | 7 30  | 10                 | 15 05 | 10               | 16 05 | British      | Hall Line, Ltd.                  | 450     | 7     | 56                | 9     | 24   | 8       | New York     | Sydney                | General          | 6,300 | 8,127  | 6,134 |
| Holmia               | 10               | 6 57  | 10             | 12 22 | 10                 | 19 01 | 10               | 20 00 | Swedish      | Swedish Lloyds                   | 285     | 0     | 41                | 0     | 18   | 6       | New Orleans  | Guayaquil             | General          | 1,769 | 2,322  | 1,431 |
| Dryden               | 10               | 6 30  | 10             | 12 55 | 10                 | 20 43 | 10               | 21 55 | American     | Barber Steamship Co. (S. B.)     | 434     | 0     | 57                | 6     | 28   | 0       | New York     | Yokohama              | General          | 9,103 | 7,983  | 5,882 |
| City of Melbourne    | 10               | 8 21  | 11             | 6 35  | 11                 | 14 04 | 11               | 15 25 | British      | Ellerman Hall Line               | 412     | 0     | 55                | 0     | 28   | 0       | New York     | Yokohama              | General          | 9,400 | 6,799  | 4,783 |
| Eastern Planet       | 10               | 15 05 | 11             | 7 30  | 11                 | 15 39 | 11               | 17 00 | American     | U. S. & Australia Line (S. B.)   | 384     | 8     | 51                | 2     | 27   | 6       | New York     | Brisbane              | Oil and general  | 5,600 | 6,255  | 4,480 |
| K. R. Kingsbury      | 10               | 19 37 | 11             | 8 20  | 11                 | 17 27 | 11               | 18 30 | American     | Standard Oil Co.                 | 440     | 0     | 58                | 2     | 22   | 4       | Liverpool    | San Francisco         | Ballast          | 9,033 | 5,938  |       |
| Santa Tecla          | 11               | 5 06  | 11             | 12 20 | 11                 | 19 31 | 11               | 20 40 | American     | W. R. Grace & Co.                | 298     | 6     | 40                | 0     | 20   | 4       | New York     | Superior              | General          | 2,377 | 2,835  | 1,827 |

Steel products and sulphate ammonia.

\* Steel products and sulphate ammonia.

\* Launch.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                  | 4  | 17 | 5  | 6  | 5  | 14 | 5  | 5  | 22 | 35 | American. | Thor. Thoresen's Line. | 470.1 | 57.2 | 29.9 | Seattle.          | Liverpool.       | General.         | 10,800 |
|------------------|----|----|----|----|----|----|----|----|----|----|-----------|------------------------|-------|------|------|-------------------|------------------|------------------|--------|
| Alaskan.....     | 4  | 20 | 00 | 5  | 8  | 02 | 5  | 16 | 10 | 6  | 10        | 19                     | 254.8 | 39.2 | 13.0 | Guayaquil.        | New York.        | General.         | 736    |
| Surfco.....      | 4  | 20 | 00 | 5  | 8  | 02 | 5  | 16 | 10 | 6  | 10        | 19                     | 254.8 | 39.2 | 13.0 | Guayaquil.        | New York.        | General.         | 736    |
| Gen. H. F.       | 5  | 3  | 00 | 5  | 8  | 05 | 5  | 16 | 15 | 6  | 15        | 35                     | 303.9 | 39.0 | 16.5 | Guayaquil.        | New York.        | General.         | 1,232  |
| Hodas.....       | 5  | 6  | 00 | 5  | 8  | 59 | 5  | 17 | 00 | 5  | 18        | 15                     | 306.8 | 39.1 | 13.0 | Seattle.          | Boston.          | General.         | 3,232  |
| Knoxville.....   | 5  | 6  | 20 | 5  | 9  | 37 | 5  | 17 | 50 | 5  | 21        | 15                     | 424.2 | 36.2 | 23.0 | Port. Alice, B.C. | Boston.          | General.         | 7,400  |
| Acuña.....       | 5  | 13 | 00 | 6  | 6  | 48 | 6  | 14 | 25 | 6  | 15        | 06                     | 215.7 | 35.5 | 16.6 | Champerico.       | Cristobal.       | Coffee, etc.     | 978    |
| Steel Starfarer  | 5  | 23 | 00 | 6  | 7  | 57 | 6  | 15 | 06 | 6  | 15        | 30                     | 224.2 | 36.2 | 23.0 | Seattle.          | Boston.          | General.         | 5,853  |
| Salvador.....    | 6  | 9  | 45 | 6  | 10 | 55 | 6  | 17 | 12 | 8  | 10        | 20                     | 213.0 | 35.6 | 14.0 | Guayaquil.        | Cristobal.       | General.         | 370    |
| Mineral.....     | 5  | 19 | 50 | 6  | 11 | 20 | 6  | 19 | 20 | 7  | 14        | 55                     | 238.6 | 33.0 | 40.0 | Super. Peru.      | New York.        | General.         | 1,373  |
| Santa Luisa..... | 6  | 11 | 35 | 6  | 13 | 26 | 6  | 20 | 00 | 7  | 2         | 20                     | 300.2 | 35.0 | 17.2 | Talcahuano.       | New York.        | General.         | 3,190  |
| Antiochia.....   | 7  | 0  | 01 | 7  | 7  | 46 | 7  | 16 | 26 | 8  | 1         | 55                     | 363.4 | 32.0 | 13.0 | Champerico.       | Coffee, tobacco. | General.         | 846    |
| Matano.....      | 7  | 3  | 30 | 7  | 9  | 28 | 7  | 16 | 35 | 8  | 1         | 55                     | 367.3 | 35.0 | 21.3 | Callao.           | Cristobal.       | General.         | 2,087  |
| Julia Lucken-    | 7  | 23 | 00 | 8  | 7  | 49 | 8  | 14 | 30 | 9  | 13        | 38                     | 436.6 | 37.2 | 26.0 | Portland.         | New York.        | Lumber, general. | 7,133  |
| bach.....        | 8  | 1  | 00 | 8  | 8  | 50 | 8  | 16 | 40 | 9  | 16        | 30                     | 364.4 | 43.4 | 21.4 | Valparaiso.       | London.          | General.         | 4,553  |
| Jason.....       | 7  | 22 | 25 | 8  | 10 | 12 | 8  | 18 | 00 | 8  | 23        | 20                     | 433.2 | 60.2 | 23.0 | Talcahuano.       | Crude naphtha.   | General.         | 10,478 |
| Alberic.....     | 8  | 1  | 00 | 8  | 10 | 12 | 8  | 18 | 00 | 8  | 23        | 20                     | 433.2 | 60.2 | 23.0 | Talcahuano.       | Crude naphtha.   | General.         | 10,478 |
| Chancellor.....  | 8  | 1  | 00 | 8  | 10 | 12 | 8  | 18 | 00 | 8  | 23        | 20                     | 433.2 | 60.2 | 23.0 | Talcahuano.       | Crude naphtha.   | General.         | 10,478 |
| Alta.....        | 8  | 9  | 15 | 8  | 11 | 59 | 8  | 20 | 30 | 9  | 22        | 10                     | 360.6 | 50.2 | 22.9 | Corral.           | Hamburg.         | General.         | 5,805  |
| Oranania.....    | 9  | 20 | 00 | 9  | 7  | 54 | 9  | 15 | 22 | 9  | 15        | 52                     | 454.0 | 56.2 | 21.6 | Sydney.           | Glasgow.         | General.         | 4,158  |
| Netherby.....    | 10 | 20 | 00 | 10 | 7  | 30 | 10 | 16 | 15 | 11 | 6         | 30                     | 450.2 | 49.3 | 24.0 | Portland.         | Glasgow.         | General.         | 5,594  |
| Mont Cervin..... | 10 | 15 | 00 | 10 | 8  | 45 | 10 | 17 | 40 | 11 | 18        | 27                     | 430.6 | 48.9 | 21.0 | Seattle.          | Marseilles.      | Ballast.         | 4,302  |
| San Joaquin..... | 11 | 12 | 45 | 11 | 14 | 42 | 11 | 21 | 25 | 12 | 1         | 55                     | 425.4 | 57.1 | 18.0 | Anothagasta.      | Tampico.         | General.         | 95     |
| Manavi.....      | 11 | 12 | 45 | 11 | 14 | 42 | 11 | 21 | 25 | 12 | 1         | 55                     | 425.4 | 57.1 | 18.0 | Anothagasta.      | Tampico.         | General.         | 95     |

<sup>1</sup> Nitrate, bran, oil cake, sugar, and general.

<sup>2</sup> Chilled fruit and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |             |                    |                         | *DEPARTURES. |             |                                 |                        |
|------------|-------------|--------------------|-------------------------|--------------|-------------|---------------------------------|------------------------|
| Date.      | Vessel.     | Line.              | From—                   | Date.        | Vessel.     | Line.                           | For—                   |
| Feb. 5.    | Zacapa.     | United Fruit Co.   | New Orleans via Habana. | Feb. 5.      | Linda S. 6. | Surgeon Brothers.               | Colon.                 |
| Feb. 6.    | Cartago.    | United Fruit Co.   | New Orleans.            | Feb. 6.      | Zacapa.     | United Fruit Co.                | Rocas del Toro.        |
| Feb. 6.    | Aguihavre.  | Agui Steamship Co. | Palo Blanco.            | Feb. 6.      | Advance.    | Panama Railroad Steamship Line. | Cartagena.             |
| Feb. 8.    | Turrialba.  | United Fruit Co.   | Colombian ports.        | Feb. 7.      | Tamar.      | Royal Mail Steam Packet Co.     | Puerto Lobos.          |
| Feb. 9.    | Zacapa.     | United Fruit Co.   | Rocas del Toro.         | Feb. 8.      | Aguihavre.  | Agui Steamship Co.              | New Orleans and way-   |
| Feb. 9.    | Metapan.    | United Fruit Co.   | New York via Kingston.  | Feb. 9.      | Cartago.    | United Fruit Co.                | ports.                 |
| Feb. 10.   | Calamares.  | United Fruit Co.   | Boston via wayports.    | Feb. 9.      | Turrialba.  | United Fruit Co.                | New York via Kingston. |
| Feb. 11.   | San Benito. | United Fruit Co.   | Liverpool and wayports. | Feb. 9.      | Zacapa.     | United Fruit Co.                | New Orleans.           |
| Feb. 11.   | Oranania.   | Leyland Line.      | Liverpool and wayports. | Feb. 10.     | Metapan.    | Panama Railroad Steamship Line. | New York via wayports. |
|            |             |                    |                         | Feb. 10.     | Panama.     | Panama Railroad Steamship Line. | New York via Haiti.    |
|            |             |                    |                         | Feb. 11.     | Calamares.  | United Fruit Co.                | New York via wayports. |
|            |             |                    |                         | Feb. 11.     | San Benito. | United Fruit Co.                | Boston.                |

<sup>6</sup> Motor schooner.

## PORT OF BALBOA.

| Date.   | Vessel.  | Line.                          | From—          | Date.   | Vessel.  | Line.                          | For—            |
|---------|----------|--------------------------------|----------------|---------|----------|--------------------------------|-----------------|
| Feb. 5. | Sinaloa. | A. O. Lindvig.                 | Talara.        | Feb. 5. | Sinaloa. | A. O. Lindvig.                 | San Francisco.  |
| Feb. 5. | Meriden. | General Steamship Corporation. | San Francisco. | Feb. 7. | Meriden. | General Steamship Corporation. | Mollendo, Peru. |

\*Other than ships passing through the Canal.

# Commercial Traffic Through the Panama Canal in January, 1922, by Trade Routes.

## ATLANTIC TO PACIFIC.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.           | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |                  |                   |
| <i>United States coastwise:</i>                                         |                 |                           |                   |                   |                 |                  | <i>Long tons.</i> |
| United States                                                           | 28              | 113,297                   | 138,928           | 172,338           | 118,266         | \$141,404.35     | 119,413           |
| <i>From United States to Far East:</i>                                  |                 |                           |                   |                   |                 |                  |                   |
| United States                                                           | 6               | 24,905                    | 32,064            | 37,587            | 24,741          | 31,131.25        | 50,899            |
| British                                                                 | 5               | 24,669                    | 30,170            | 35,314            | 23,359          | 30,668.15        | 42,045            |
| Japanese                                                                | 4               | 17,272                    | 19,215            | 26,019            | 16,626          | 21,409.30        | 28,995            |
| <b>Totals</b>                                                           | <b>15</b>       | <b>66,846</b>             | <b>81,449</b>     | <b>98,920</b>     | <b>64,726</b>   | <b>83,208.70</b> | <b>121,939</b>    |
| <i>From Europe to west coast of South America:</i>                      |                 |                           |                   |                   |                 |                  |                   |
| British                                                                 | 6               | 19,822                    | 25,164            | 31,750            | 20,379          | 21,953.93        | 9,784             |
| Italian                                                                 | 2               | 5,822                     | 7,299             | 10,044            | 5,836           | 7,277.50         | 1,273             |
| Chilean                                                                 | 1               | 1,443                     | 1,507             | 2,516             | 1,443           | 1,803.75         | 2,795             |
| Dutch                                                                   | 1               | 2,290                     | 3,660             | 3,689             | 2,291           | 2,862.50         | 685               |
| French                                                                  | 1               | 4,288                     | 4,409             | 5,564             | 3,524           | 5,290.80         | 175               |
| German                                                                  | 1               | 2,957                     | 3,486             | 4,750             | 2,969           | 3,696.25         | 3,200             |
| <b>Totals</b>                                                           | <b>12</b>       | <b>36,622</b>             | <b>45,525</b>     | <b>58,313</b>     | <b>36,442</b>   | <b>42,884.73</b> | <b>17,912</b>     |
| <i>From east coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |                  |                   |
| United States                                                           | 5               | 11,850                    | 15,882            | 19,923            | 11,941          | 14,808.80        | 8,368             |
| British                                                                 | 4               | 9,678                     | 13,639            | 18,193            | 10,363          | 12,097.50        | 6,327             |
| Norwegian                                                               | 1               | 881                       | 1,479             | 1,493             | 873             | 1,101.25         | 64                |
| Swedish                                                                 | 1               | 1,091                     | 1,227             | 1,825             | 1,282           | 1,363.75         | 1,943             |
| <b>Totals</b>                                                           | <b>11</b>       | <b>23,500</b>             | <b>32,227</b>     | <b>41,434</b>     | <b>24,459</b>   | <b>29,371.30</b> | <b>16,702</b>     |
| <i>From Cristobal, C. Z., to west coast of South America:</i>           |                 |                           |                   |                   |                 |                  |                   |
| British                                                                 | 5               | 1,874                     | 2,604             | 3,432             | 2,080           | 2,342.50         | 823               |
| Chilean                                                                 | 2               | 3,260                     | 5,645             | 6,367             | 3,888           | 4,075.00         | 955               |
| Peruvian                                                                | 2               | 2,710                     | 5,337             | 9,147             | 4,763           | 3,387.50         | 480               |
| United States                                                           | 1               | 336                       | 350               | 615               | 372             | 252.00           |                   |
| <b>Totals</b>                                                           | <b>10</b>       | <b>8,180</b>              | <b>13,936</b>     | <b>19,561</b>     | <b>11,103</b>   | <b>10,057.00</b> | <b>2,258</b>      |
| <i>From Europe to west coast of United States:</i>                      |                 |                           |                   |                   |                 |                  |                   |
| British                                                                 | 2               | 8,925                     | 11,882            | 14,127            | 8,954           | 9,426.23         | 3,423             |
| Danish                                                                  | 1               | 3,221                     | 3,289             | 3,901             | 3,329           | 3,946.80         | 4,800             |
| Dutch                                                                   | 1               | 2,252                     | 3,524             | 3,699             | 2,226           | 2,815.00         | 5,407             |
| French                                                                  | 1               | 4,483                     | 4,515             | 4,731             | 2,912           | 5,418.00         | 800               |
| Norwegian                                                               | 1               | 3,137                     | 3,930             | 5,128             | 3,129           | 3,921.25         | 6,050             |
| United States                                                           | 1               | 978                       | 1,103             | 1,508             | 809             | 1,222.50         | 397               |
| <b>Totals</b>                                                           | <b>7</b>        | <b>22,996</b>             | <b>28,243</b>     | <b>33,094</b>     | <b>21,359</b>   | <b>26,749.78</b> | <b>20,877</b>     |
| <i>From Europe to Australasia:</i>                                      |                 |                           |                   |                   |                 |                  |                   |
| British                                                                 | 10              | 48,436                    | 57,000            | 74,763            | 48,743          | 60,352.25        | 46,096            |
| <i>From east coast of United States to Australasia:</i>                 |                 |                           |                   |                   |                 |                  |                   |
| British                                                                 | 4               | 16,124                    | 22,366            | 25,501            | 16,218          | 20,155.00        | 22,634            |
| <i>From east coast of Mexico to west coast of South America:</i>        |                 |                           |                   |                   |                 |                  |                   |
| United States                                                           | 2               | 8,453                     | 10,118            | 12,604            | 8,453           | 10,566.25        | 18,400            |
| British                                                                 | 1               | 4,645                     | 5,311             | 7,270             | 4,513           | 5,806.25         | 9,600             |
| Norwegian                                                               | 1               | 4,418                     | 5,043             | 6,987             | 4,422           | 5,522.50         | 9,152             |
| <b>Totals</b>                                                           | <b>4</b>        | <b>17,516</b>             | <b>20,472</b>     | <b>26,861</b>     | <b>17,388</b>   | <b>21,895.00</b> | <b>37,152</b>     |
| <i>From West Indies to Far East:</i>                                    |                 |                           |                   |                   |                 |                  |                   |
| Japanese                                                                | 2               | 8,716                     | 8,798             | 11,714            | 8,518           | 10,639.20        | 14,514            |
| Norwegian                                                               | 1               | 2,917                     | 2,945             | 3,512             | 2,296           | 3,534.00         | 5,100             |
| British                                                                 | 1               | 2,759                     | 3,397             | 4,296             | 2,792           | 3,448.75         | 5,700             |
| <b>Totals</b>                                                           | <b>4</b>        | <b>14,392</b>             | <b>15,140</b>     | <b>19,522</b>     | <b>13,606</b>   | <b>17,621.95</b> | <b>25,314</b>     |
| <i>From Europe to west coast of Canada:</i>                             |                 |                           |                   |                   |                 |                  |                   |
| British                                                                 | 3               | 9,650                     | 12,003            | 15,517            | 9,712           | 12,062.50        | 10,482            |
| Dutch                                                                   | 1               | 5,403                     | 6,612             | 8,384             | 5,437           | 6,753.75         | 5,390             |
| <b>Totals</b>                                                           | <b>4</b>        | <b>15,053</b>             | <b>18,615</b>     | <b>23,901</b>     | <b>15,149</b>   | <b>18,816.25</b> | <b>15,872</b>     |
| <i>From West Indies to Balboa, C. Z.:</i>                               |                 |                           |                   |                   |                 |                  |                   |
| British                                                                 | 1               | 3,255                     | 3,714             | 5,631             | 3,230           | 4,068.75         | 8,000             |
| Danish                                                                  | 1               | 167                       | 180               | 360               | 170             | 129.60           |                   |
| <b>Totals</b>                                                           | <b>2</b>        | <b>3,422</b>              | <b>3,894</b>      | <b>5,991</b>      | <b>3,400</b>    | <b>4,198.35</b>  | <b>8,000</b>      |
| <i>From Cristobal, C. Z., to west coast of United States:</i>           |                 |                           |                   |                   |                 |                  |                   |
| United States                                                           | 2               | 2,986                     | 3,756             | 4,796             | 2,963           | 3,732.50         | 4,112             |

## ATLANTIC TO PACIFIC—Continued.

| Route and registry.                                              | No. of vessels. | TONNAGE.                  |                   |                   |                  | Tolls.     | Tons of cargo.    |
|------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|------------------|------------|-------------------|
|                                                                  |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net.  |            |                   |
| <i>From Europe to west coast of Central America:</i>             |                 |                           |                   |                   |                  |            | <i>Long tons.</i> |
| German.....                                                      | 1               | 1,807                     | 3,003             | 3,106             | 1,809            | \$2,258.75 | 746               |
| <i>From Europe to west coast of Mexico:</i>                      |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 753                       | 929               | 1,478             | 841              | 941.25     | 125               |
| <i>From east coast of Mexico to west coast of Canada:</i>        |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 8,029                     | 8,130             | 10,831            | 7,530            | 9,756.00   | 15,000            |
| <i>From east coast of South America to Far East:</i>             |                 |                           |                   |                   |                  |            |                   |
| Japanese.....                                                    | 1               | 3,645                     | 4,289             | 5,790             | 3,564            | 4,556.25   | 3,185             |
| <i>From east coast of United States to west coast of Canada:</i> |                 |                           |                   |                   |                  |            |                   |
| United States.....                                               | 1               | 3,599                     | 4,900             | 5,680             | 3,508            | 4,498.75   | 2,521             |
| <i>From east coast of Canada to Australasia:</i>                 |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 3,513                     | 4,160             | 5,454             | 3,340            | 4,391.25   | 5,499             |
| <i>From West Indies to west coast of Canada:</i>                 |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 2,743                     | 3,622             | 4,436             | 2,809            | 3,428.75   | 4,200             |
| <i>From east coast of Mexico to Balboa, C. Z.:</i>               |                 |                           |                   |                   |                  |            |                   |
| United States.....                                               | 1               | 1,646                     | 1,669             | 1,810             | 1,748            | 2,002.80   | 2,523             |
| <i>From Cristobal, C. Z., to west coast of Central America:</i>  |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 638                       | 706               | 1,170             | 654              | 797.50     | 1,021             |
| <i>Canadian coastwise:</i>                                       |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 170                       | 183               | 483               | 192              | 131.76     | .....             |
| <i>Colombian coastwise:</i>                                      |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | 614                       | 622               | 1,138             | 602              | 746.40     | 490               |
| <i>Miscellaneous:</i>                                            |                 |                           |                   |                   |                  |            |                   |
| British.....                                                     | 1               | ( <sup>1</sup> )          | ( <sup>1</sup> )  | ( <sup>1</sup> )  | ( <sup>1</sup> ) | 2,300.00   | .....             |
| Totals.....                                                      | 125             | 416,527                   | 513,764           | 646,371           | 420,419          | 516,256.62 | 493,591           |

\* Displacement, 4,600 tons.

## PACIFIC TO ATLANTIC.

|                                                                         |    |        |         |         |        |              |        |
|-------------------------------------------------------------------------|----|--------|---------|---------|--------|--------------|--------|
| <i>United States coastwise:</i>                                         |    |        |         |         |        |              |        |
| United States.....                                                      | 20 | 89,152 | 108,921 | 130,404 | 86,958 | \$111,440.00 | 86,862 |
| <i>From west coast of South America to Europe:</i>                      |    |        |         |         |        |              |        |
| British.....                                                            | 6  | 20,740 | 25,284  | 34,616  | 20,993 | 25,925.00    | 30,341 |
| Danish.....                                                             | 1  | 1,661  | 2,058   | 2,631   | 1,682  | 1,481.76     | .....  |
| Dutch.....                                                              | 1  | 4,085  | 4,393   | 4,368   | 2,726  | 5,106.25     | 6,815  |
| French.....                                                             | 1  | 3,566  | 4,081   | 5,681   | 3,600  | 4,457.50     | 6,127  |
| German.....                                                             | 1  | 2,531  | 3,374   | 4,174   | 2,584  | 3,163.75     | 5,900  |
| Italian.....                                                            | 1  | 3,097  | 3,599   | 5,376   | 3,082  | 3,871.25     | 4,630  |
| Totals.....                                                             | 11 | 35,680 | 42,789  | 56,846  | 34,667 | 44,005.51    | 53,813 |
| <i>From west coast of South America to Cristobal, C. Z.:</i>            |    |        |         |         |        |              |        |
| British.....                                                            | 3  | 675    | 1,028   | 1,263   | \$15   | 843.75       | 391    |
| Chilean.....                                                            | 2  | 3,260  | 5,645   | 6,367   | 3,888  | 4,075.00     | 883    |
| Peruvian.....                                                           | 2  | 2,710  | 5,337   | 9,147   | 4,763  | 3,387.50     | 4,119  |
| United States.....                                                      | 2  | 668    | 670     | 1,230   | 746    | 804.00       | 801    |
| Panamanian.....                                                         | 1  | 69     | 69      | 123     | 72     | 51.75        | .....  |
| Totals.....                                                             | 10 | 7,382  | 12,749  | 18,130  | 10,284 | 9,162.00     | 6,194  |
| <i>From west coast of South America to east coast of United States:</i> |    |        |         |         |        |              |        |
| United States.....                                                      | 5  | 13,012 | 17,421  | 21,893  | 13,359 | 17,015.00    | 20,795 |
| British.....                                                            | 3  | 7,806  | 10,863  | 14,484  | 8,432  | 9,757.50     | 8,842  |
| Norwegian.....                                                          | 1  | 866    | 999     | 1,406   | 875    | 1,082.50     | 1,211  |
| Totals.....                                                             | 9  | 22,284 | 29,283  | 37,783  | 22,666 | 27,855.00    | 30,848 |
| <i>From west coast of United States to Europe:</i>                      |    |        |         |         |        |              |        |
| British.....                                                            | 2  | 7,852  | 8,400   | 11,947  | 7,358  | 9,692.85     | 12,466 |
| Japanese.....                                                           | 3  | 12,218 | 13,156  | 17,162  | 11,945 | 15,091.65    | 20,890 |
| United States.....                                                      | 2  | 7,486  | 10,408  | 12,234  | 7,485  | 9,357.50     | 14,830 |
| Totals.....                                                             | 7  | 27,556 | 31,964  | 41,343  | 26,788 | 34,142.00    | 48,186 |
| <i>From west coast of Canada to east coast of United States:</i>        |    |        |         |         |        |              |        |
| United States.....                                                      | 2  | 6,962  | 9,665   | 11,701  | 7,208  | 8,702.50     | 11,826 |

## PACIFIC TO ATLANTIC—Continued.

| Route and registry.                                                       | No. of vessels. | TONNAGE.                  |                   |                   |                  | Tolls.      | Tons of cargo.    |
|---------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|------------------|-------------|-------------------|
|                                                                           |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net.  |             |                   |
| <i>From west coast of Canada to Europe:</i>                               |                 |                           |                   |                   |                  |             | <i>Long tons.</i> |
| British.....                                                              | 2               | 8,834                     | 11,570            | 14,002            | 8,377            | \$11,042.50 | 12,963            |
| Dutch.....                                                                | 1               | 4,863                     | 6,066             | 7,655             | 4,799            | 6,078.75    | 6,376             |
| United States.....                                                        | 1               | 4,402                     | 4,443             | 5,718             | 4,297            | 5,385.60    | 7,056             |
| Totals.....                                                               | 4               | 18,099                    | 22,079            | 27,375            | 17,973           | 22,506.85   | 26,395            |
| <i>From Australasia to Europe:</i>                                        |                 |                           |                   |                   |                  |             |                   |
| British.....                                                              | 3               | 13,995                    | 16,394            | 20,700            | 12,842           | 17,493.75   | 18,061            |
| Danish.....                                                               | 1               | 1,754                     | 2,166             | 2,925             | 1,748            | 2,192.50    | 2,218             |
| Totals.....                                                               | 4               | 15,749                    | 18,560            | 23,625            | 14,590           | 19,686.25   | 20,279            |
| <i>From west coast of South America to east coast of Mexico:</i>          |                 |                           |                   |                   |                  |             |                   |
| British.....                                                              | 1               | 4,645                     | 5,311             | 7,270             | 4,513            | 3,823.92    | .....             |
| Norwegian.....                                                            | 1               | 4,407                     | 5,051             | 7,022             | 4,438            | 3,636.72    | .....             |
| United States.....                                                        | 1               | 4,203                     | 5,041             | 6,703             | 4,203            | 3,629.52    | .....             |
| Totals.....                                                               | 3               | 13,255                    | 15,403            | 20,995            | 13,154           | 11,090.16   | .....             |
| <i>From Far East to east coast of United States:</i>                      |                 |                           |                   |                   |                  |             |                   |
| Japanese.....                                                             | 2               | 9,688                     | 10,475            | 13,934            | 9,450            | 11,961.05   | 14,845            |
| <i>From Australasia to east coast of United States:</i>                   |                 |                           |                   |                   |                  |             |                   |
| United States.....                                                        | 1               | 4,530                     | 4,561             | 5,840             | 4,497            | 5,473.20    | 6,800             |
| British.....                                                              | 1               | 3,490                     | 4,051             | 5,384             | 3,311            | 4,362.50    | 2,000             |
| Totals.....                                                               | 2               | 8,020                     | 8,612             | 11,224            | 7,808            | 9,835.70    | 8,800             |
| <i>From west coast of Central America to east coast of United States:</i> |                 |                           |                   |                   |                  |             |                   |
| United States.....                                                        | 2               | 1,377                     | 1,381             | 1,544             | 1,334            | 1,721.25    | 2,836             |
| <i>From west coast of Central America to Cristobal, C. Z.:</i>            |                 |                           |                   |                   |                  |             |                   |
| British.....                                                              | 2               | 1,401                     | 1,577             | 2,731             | 1,463            | 1,751.25    | 860               |
| <i>Colombian coastwise:</i>                                               |                 |                           |                   |                   |                  |             |                   |
| British.....                                                              | 1               | 614                       | 622               | 1,138             | 602              | 746.40      | 126               |
| <i>From Balboa, C. Z., to West Indies:</i>                                |                 |                           |                   |                   |                  |             |                   |
| Danish.....                                                               | 1               | 167                       | 180               | 360               | 170              | 129.60      | .....             |
| <i>From west coast of United States to east coast of South America:</i>   |                 |                           |                   |                   |                  |             |                   |
| United States.....                                                        | 1               | 3,537                     | 4,901             | 5,657             | 3,536            | 4,421.25    | 1,188             |
| <i>From west coast of United States to Cristobal, C. Z.:</i>              |                 |                           |                   |                   |                  |             |                   |
| United States.....                                                        | 1               | 1,654                     | 2,163             | 2,643             | 1,654            | 2,067.50    | 655               |
| <i>From Far East to east coast of Mexico:</i>                             |                 |                           |                   |                   |                  |             |                   |
| Japanese.....                                                             | 1               | 5,513                     | 6,385             | 9,049             | 6,502            | 4,597.20    | .....             |
| <i>From west coast of United States to east coast of Mexico:</i>          |                 |                           |                   |                   |                  |             |                   |
| United States.....                                                        | 1               | 4,418                     | 5,043             | 6,987             | 4,422            | 3,630.96    | .....             |
| <i>Miscellaneous:</i>                                                     |                 |                           |                   |                   |                  |             |                   |
| British.....                                                              | 1               | ( <sup>1</sup> )          | ( <sup>1</sup> )  | ( <sup>1</sup> )  | ( <sup>1</sup> ) | 2,058.50    | .....             |
| Totals.....                                                               | 85              | 272,508                   | 332,752           | 423,469           | 271,229          | 331,510.93  | 313,707           |

<sup>1</sup> Displacement, 4,117 tons.**Trial Installation of Gas in Canal Zone Quarters.**

The Panama Gas Company has been given permission to make several trial gas installations for cooking in Canal Zone quarters, under provisions that the test be without expense or obligation on the part of The Panama Canal, and with the consent of the occupants of the quarters in which the trial installations are made. The company has extended mains from Panama to about eight quarters in Ancon, near the boundary, and the laying of pipes, etc., for the several houses is in progress.

**Certificate.**

By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.  
PUBLISHED WEEKLY.

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The Panama Canal, Washington, D. C.

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at Cristobal, C. Z., under the Act of March 3, 1879.



Volume XV. Balboa Heights, C. Z., February 22, 1922. No. 28.

## Wet Storage of Coal.

Both of the coaling plants at the Canal terminals are provided with spaces for the storage of coal under water, as well as in the dry.

No complaint has been made of the combustible qualities of the coal stored subaqueously, but in order to ascertain if other plants had experienced any deterioration from water storage, the Governor requested the Chief of Office in Washington to obtain the conclusions of Mr. H. H. Stoeck, Professor of Mining Engineering at the University of Illinois, as to the relative merits of wet and dry storage of coal. In his reply Professor Stoeck stated:

I would report that several companies in Illinois have used\* under-water storage apparently with success. One of the first companies to use this form was the Western Electric Company in Chicago which has a number of concrete pits, also the Illinois Traction Company has used this method at several of its larger power plants. Several of the zinc companies in the State have used old sloughs for temporary storage and in a similar manner a number of mines have used these sloughs for excess production. The largest under-water storage plant of which I have been advised is that of the Standard Oil Company at Whiting, Ind., where provision has been made for 100,000 tons. The Duquesne Light Company, of Pittsburgh, also has a large under-water storage plant. In the absence of negative reports from any of these companies I assume they have found under-water storage satisfactory.

Experiments made at the University of Illinois on small quantities of coal under water have shown practically no deterioration.

The 2 large plants above referred to, namely, those of the Standard Oil Company and the Duquesne Light Company, are of too recent construction to have very conclusive results extending over a sufficient period of time.

Under-water storage is, of course, best adapted for fine sizes of run-of-mine coal where it is necessary to have a mixture of sizes and a considerable amount of fine coal and dust in the material stored. If the coal can be properly sized and carefully handled I do not believe it is necessary to have under-water storage as the expense of the plant is, of course, materially greater than ground storage.

## Bunker Coal at San Diego and Los Angeles.

Effective January 19, the price of bunker coal at San Diego and Los Angeles was reduced to \$12 per gross ton of 2,240 pounds, f. o. b. vessel alongside dock; trimming extra at actual cost of labor and accident insurance, plus 10 per cent. These prices are quoted by the Spreckels Brothers Commercial Company, subject to change without notice.

## Government Hotels to be Offered for Lease.

Consideration is being given to leasing the Hotel Tivoli, at Ancon, and the Hotel Washington, in Colon, and a form of contract is being prepared. It will provide that the lessee purchase the equipment in the hotels. As soon as the form of statements, contract, etc., shall have been approved it is intended to advertise for bids.

Advertisements will be placed in the United States as well as locally and efforts will be made to attract the attention of hotel managements, steamship interests or other organizations or individuals which might be expected to conduct the hotels on a high plane with an aggressive business policy.



| Date.   | Vessel.             | Line.                           | From—                     | Date.   | Vessel.              | Line.                           | For—                      |
|---------|---------------------|---------------------------------|---------------------------|---------|----------------------|---------------------------------|---------------------------|
| Feb. 12 | Gen. G. W. Goethals | Panama Railroad Steamship Line. | New York via Haiti.       | Feb. 13 | Atenas               | United Fruit Co.                | Bocas del Toro.           |
| Feb. 12 | Atenas              | United Fruit Co.                | New Orleans via Haiti.    | Feb. 13 | Solana               | Pacific Mail Steamship Co.      | Tampico.                  |
| Feb. 13 | Heredia             | United Fruit Co.                | New Orleans via Haiti.    | Feb. 15 | San Blas             | United Fruit Co.                | Boston.                   |
| Feb. 14 | San Blas            | United Fruit Co.                | Boston via wayports.      | Feb. 15 | Oranien              | Leiyland Line.                  | New Orleans.              |
| Feb. 15 | Haiti               | French Line                     | St. Nazaire via wayports. | Feb. 16 | Heredia              | United Fruit Co.                | New Orleans via wayports. |
| Feb. 15 | Atenas              | United Fruit Co.                | Bocas del Toro.           | Feb. 16 | Atenas               | United Fruit Co.                | New Orleans.              |
| Feb. 16 | San Juan            | Bluefield Fruit Co.             | Bluefields.               | Feb. 16 | Gen. G. W. Goethals. | Panama Railroad Steamship Line. | New Orleans via wayports. |
| Feb. 16 | San Juan            | United Fruit Co.                | New York via wayports.    | Feb. 18 | Pastores             | United Fruit Co.                | New York via Haiti.       |
| Feb. 17 | Pastores            | United Fruit Co.                | Port Limon.               | Feb. 18 | Bayamo               | Pastores                        | New York via wayports.    |
| Feb. 17 | Bayamo              | Elders & Wykes, Ltd.            | New York via Haiti.       | Feb. 18 | Haiti                | Elders & Wykes, Ltd.            | Kingsston.                |
| Feb. 18 | Colon               | Panama Railroad Steamship Line. | New York via Haiti.       | Feb. 18 | Haiti                | French Line.                    | Puerto Colombia.          |

\* Motor schooner. \*\* H. M. S. cruiser. \*\* For orders. \*\* Wheat, lumber, and general. \*\* Lumber, copper, and general. \*\* Wheat, fruit, coffee, and cocoa. \*\* Beans, hay, coffee, and canned goods.

16 Coffee, cocoa, and ivory nuts. 17 Did not enter harbor. 18 Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| Date.   | Vessel.             | Line.                           | From—                     | Date.   | Vessel.              | Line.                           | For—                      |
|---------|---------------------|---------------------------------|---------------------------|---------|----------------------|---------------------------------|---------------------------|
| Feb. 12 | Gen. G. W. Goethals | Panama Railroad Steamship Line. | New York via Haiti.       | Feb. 13 | Atenas               | United Fruit Co.                | Bocas del Toro.           |
| Feb. 12 | Atenas              | United Fruit Co.                | New Orleans via Haiti.    | Feb. 13 | Solana               | Pacific Mail Steamship Co.      | Tampico.                  |
| Feb. 13 | Heredia             | United Fruit Co.                | New Orleans via Haiti.    | Feb. 15 | San Blas             | United Fruit Co.                | Boston.                   |
| Feb. 14 | San Blas            | United Fruit Co.                | Boston via wayports.      | Feb. 15 | Oranien              | Leiyland Line.                  | New Orleans.              |
| Feb. 15 | Haiti               | French Line                     | St. Nazaire via wayports. | Feb. 16 | Heredia              | United Fruit Co.                | New Orleans via wayports. |
| Feb. 15 | Atenas              | United Fruit Co.                | Bocas del Toro.           | Feb. 16 | Atenas               | United Fruit Co.                | New Orleans.              |
| Feb. 16 | San Juan            | Bluefield Fruit Co.             | Bluefields.               | Feb. 16 | Gen. G. W. Goethals. | Panama Railroad Steamship Line. | New Orleans via wayports. |
| Feb. 16 | San Juan            | United Fruit Co.                | New York via wayports.    | Feb. 18 | Pastores             | United Fruit Co.                | New York via Haiti.       |
| Feb. 17 | Pastores            | United Fruit Co.                | Port Limon.               | Feb. 18 | Bayamo               | Pastores                        | New York via wayports.    |
| Feb. 17 | Bayamo              | Elders & Wykes, Ltd.            | New York via Haiti.       | Feb. 18 | Haiti                | Elders & Wykes, Ltd.            | Kingsston.                |
| Feb. 18 | Colon               | Panama Railroad Steamship Line. | New York via Haiti.       | Feb. 18 | Haiti                | French Line.                    | Puerto Colombia.          |

## PORT OF BALBOA.

| Date.   | Vessel.     | Line.                 | From—        | Date.   | Vessel.     | Line.                 | For—         |
|---------|-------------|-----------------------|--------------|---------|-------------|-----------------------|--------------|
| Feb. 13 | Yorba Linda | General Petroleum Co. | Antofagasta. | Feb. 13 | Yorba Linda | General Petroleum Co. | Los Angeles. |
| Feb. 18 | Seijo Maru  | Toyo Kisen Kaisha     | Valparaiso.  |         |             |                       |              |

17 Did not enter harbor.



### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended February 18:

U. S. S. *Sciota*; dock and undock; stage and clean; paint bottom 2 coats of anti-corrosive and 1 coat of antifouling; examine propeller and renew plates as necessary; examine stern tube bushing; repack stern gland; repair valves on steering engine; grind in and repair sea valves; calk rivets and staybolts, Nos. 1 and 2 boilers; renew flame rings in front of boilers; repair boiler valves; renew zinc plates for boilers; renew 1 set of H. P. piston rings, 2 rings for piston valves, I. P. engine and cover for thrust bearing; cut holes in base of wreck and circulating pumps; install regulation hold on top of smokestack; repair rudder and rudder gudgeons; renew hull zincs; renew 12 lenses; recalk leaky rivets in fuel oil compartments; straighten bottom plate of water-tight door; renew tiling in galley where broken; steamships *Buenos Aires*, dock and undock; install 1 plate on hull, port side; *Advance*, dock and undock; stage and clean; tug *Gorgona*, dock and undock; stage and clean; barge No. 135, straighten coaming; tighten bad order rivets; drill barge No. L-255, remove from water and place on dock; remove copper sheathing in spots for examination of hull.

### PREVIOUSLY REPORTED.

Motorship *Pedro Christopherson*, repair auxiliary engine crank shaft and minor running repairs; *James Timpson*, dock and undock; clean and paint bottom; renew damaged section of keel and miscellaneous repairs in engineer's department; tug *Mariner*, dock and undock; scale and paint bottom and convert from coal burner to oil burner as per specifications; barges No. 132, dock and undock; scale and paint bottom and necessary repairs below the water line, on hull; No. 134, dock and undock; scale and paint bottom and necessary repairs below the water line, on hull.

The following vessels were at the Cristobal shops for repairs during the two weeks ended February 20:

Steamships *Acajula*, dock and undock; clean and paint hull; calk seam; face up donkey and feed pump check valves and seats, starboard boiler; overhaul refrigerator circulating pump and auxiliary feed pump; install cable holders on windlass; examine and repair sea inlets and fastenings, etc.; *Salvador*, renew exhaust pipe on oil fuel pump; manufacture 2 crossheads and 2 steel crank-pin bolts for refrigerator; manufacture 3 pipe box spanners; make 12 copper rings; manufacture 2 oil burner yokes; make 2 strainer cages; repair coil; make 6 valve stems and nuts, etc.; *Mantaro*, furnish diver and diving outfit to install patch on hull; yacht *Haida*, make and install 1 main boom; make new after launch chock; repair forecstle head and rail; shift forestays and travelers and make partners for same; paint top side with 1 coat of paint; make and install galley stack; make new gear for generator, etc.; steamships *Advance*, connect blower engine fan casing to thwart ship bulkhead with angle iron stiffeners; *Heredia*, repair copper pipe and renew hydraulic pipe; *General G. W. Goethals*, braze flange on suction pipe and repair fire line; U. S. S. *O-11* and *O-13*, rivet engine foundations; tug *Tavernilla*, weld seam in boiler; regrind suction valve; test main condenser and make necessary repairs; overhaul boiler check and blow valves; scale boiler, etc.; steamship *Manavi*, renew sections of ash guard and flooring in stokehold; bore balance piston chamber and manufacture new rings, etc.; grader No. 1, clean, scale, and paint below water line; repair service pump, fuel oil heater and discharge line from fuel pump; overhaul sea valves and strainers; calk manhole flange on boiler; weld leaky seams and rivets; test all tanks; stop all leaks, etc.; steamships *Jamaica*, repair hand rail and locking bar; test boiler; repair force pump; examine and repair ports, etc.; *Duncluth*, clean boilers; renew tubes where directed; renew internal feed pipe on port boiler; electric weld cracks in boiler, etc.; *Cuba*, make valve stem and nut; electric weld crack in port boiler and roll all leaky tubes; *Haiti*, repair copper pipe as directed, etc.; tug *San Juan*, clean and paint bottom; manufacture and install new smokestack and fidley; repair and hang rudder; repair shoe and install same; renew rudder casing; repair hull and calk stem and leaky butts; change propeller; repair main steam pipe; examine and repair all sea valves and strainers, etc.; steamships *Balboa*, manufacture 1 set of steering chains; manufacture 2 eccentric rods for dynamo engine; *Colon*, braze section of steam pipe; furnish 4 cast iron bars for starboard intermediate valve; install patches on tank top; launch *Activo*, renew stud in cylinder cover; install new feather in shaft, etc.



## Notice to American Holders of Pre-war Unsecured Bonds of the Former Austrian Government.

The American Consul in Panama, R. P., has requested publication of the following:

Pre-war unsecured bonds issued by the former Austrian government which may be held by American citizens will be received by the Department of State through American Consular officers, and lists thereof will be furnished to the Reparations Commission for such action as may be taken in relation to the bonds.

All bonds submitted should be accompanied by an affidavit of the owner, giving facts regarding citizenship and complete data concerning the bonds, the affidavit to be executed before an American Consular officer, who will give receipts for the bonds and forward them to the State Department.

It is also desirable that information with regard to pre-war bonds of the former Hungarian government held by American citizens should be submitted to the nearest American Consular officer.

## Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending February 18, 1922.

| Name of vessel.      | Line or charterer.               | Arrived.     | Departed.    | Cargo—                        |                  |
|----------------------|----------------------------------|--------------|--------------|-------------------------------|------------------|
|                      |                                  |              |              | Discharged                    | Laded.           |
|                      |                                  |              |              | Tons.                         | Tons.            |
| Sarpfos              | Caribbean Steamship Co.          | February 5.  | February 6.  | 13                            | ( <sup>1</sup> ) |
| Zacapa               | United Fruit Co.                 | February 5.  | February 6.  | 1                             | 177              |
| Advance              | Panama Railroad Steamship Line.  |              | February 6.  |                               | 180              |
| Tamar                | Pacific Steam Navigation Co.     |              | February 7.  |                               | 131              |
| Gen. O. H. Ernst.    | Panama Railroad Steamship Line.  | February 5.  | February 7.  | 329                           | 75               |
| Gen. H. F. Hodges.   | Panama Railroad Steamship Line.  | February 5.  | February 6.  | 89                            | 112              |
| Agwihavre            | Atlantic, Gulf & W. I. S. S. Co. | February 6.  | February 8.  | 10,800                        | ( <sup>2</sup> ) |
| Cartazo              | United Fruit Co.                 | February 6.  | February 8.  | 406                           | 1                |
| Acajutla             | Pacific Steam Navigation Co.     | February 6.  |              | 992                           |                  |
| Imperial             | Chilean Line                     |              | February 8.  |                               | 617              |
| Mantaro.             | Peruvian Line                    | February 7.  |              | 2,087                         |                  |
| Jason                | Royal Netherlands W. I. Mail.    | February 8.  | February 9.  | 323                           | 406              |
| Turrialba            | United Fruit Co.                 | February 8.  | February 9.  | 1                             | 200              |
| Zacapa               | United Fruit Co.                 | February 9.  | February 9.  | 4 <sup>1</sup> / <sub>2</sub> | 1                |
| Metapan.             | United Fruit Co.                 | February 9.  | February 10. | 73                            | 163              |
| Holmia.              | N. O. & S. A. Steamship Line     | February 10. | February 10. | 220                           | ( <sup>2</sup> ) |
| Calamares            | United Fruit Co.                 | February 10. | February 11. | 119                           | 399              |
| Jan Van Nassau       | Royal Netherlands W. I. Mail.    | February 11. |              | 161                           |                  |
| San Benito.          | United Fruit Co.                 | February 11. | February 11. | 1                             | ( <sup>2</sup> ) |
| Manavi               | Pacific Steam Navigation Co.     | February 11. |              | 95                            |                  |
| Oranian.             | Leyland Line                     | February 11. |              | 398                           |                  |
| Atenas.              | United Fruit Co.                 | February 12. | February 13. | ( <sup>1</sup> )              | 42               |
| Mantaro.             | Peruvian Line                    |              | February 13. |                               | 358              |
| Targis.              | Roland Steamship Line            | February 12. | February 14. | 900                           | ( <sup>1</sup> ) |
| Oranian.             | Leyland Line.                    |              | February 15. |                               | 999              |
| Acajutla             | Pacific Steam Navigation Co.     |              | February 15. |                               | 724              |
| Gen. G. W. Goethals. | Panama Railroad Steamship Line.  | February 12. | February 17. | 2,006                         | 1,621            |
| Advance.             | Panama Railroad Steamship Line.  | February 13. |              | 390                           |                  |
| Heredia              | United Fruit Co.                 | February 13. |              | 987                           | 31               |
| Buenos Aires         | Spanish Line                     | February 13. |              | 153                           |                  |
| San Blas.            | United Fruit Co.                 | February 14. | February 15. | 19                            | 183              |
| Jamaica              | Pacific Steam Navigation Co.     | February 14. | February 16. | 258                           | 2                |
| Cuba                 | Pacific Mail Steamship Co.       | February 14. |              | 1,652                         |                  |
| Kenuta.              | Pacific Steam Navigation Co.     | February 15. | February 16. | 6                             | 225              |
| Haiti.               | French Line.                     | February 15. | February 18. | 6                             | 321              |
| Atenas               | United Fruit Co.                 | February 16. | February 16. | 4                             | 2                |
| Ecuador              | Pacific Mail Steamship Co.       | February 16. | February 17. | 488                           | 258              |
| Manavi               | Pacific Steam Navigation Co.     |              | February 17. |                               | 332              |
| Iowan                | American-Hawaiian Steamship Co.  | February 17. | February 17. | 7                             | ( <sup>1</sup> ) |
| Pastores.            | United Fruit Co.                 | February 17. | February 18. | 152                           | 194              |
| Venezuela.           | Pacific Mail Steamship Co.       | February 17. | February 18. | 340                           | 1,074            |
| Colon                | Panama Railroad Steamship Line   | February 18. |              | 1,906                         |                  |
| Bayano               | Elders & Fyffes, Ltd.            | February 18. | February 18. | 10                            | 4                |
| Alvarado             | Pacific Steam Navigation Co.     | February 18. |              | 24                            |                  |
| Huano                | Chilean Line.                    | February 18. |              | 153                           |                  |
| Laura C. Hall        | Pacific Metals Corporation       | February 18. |              | 36                            |                  |

<sup>1</sup> No cargo discharged.

<sup>2</sup> No cargo laded.

<sup>3</sup> Pounds.

<sup>4</sup> Packages.

### Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing  
from Port of Balboa for Three Weeks Ending February 18, 1922.**

| Name of vessel.    | Line or charterer.                 | Arrived.         | Departed.        | Cargo—       |              |
|--------------------|------------------------------------|------------------|------------------|--------------|--------------|
|                    |                                    |                  |                  | Discharged   | Laded.       |
|                    |                                    |                  |                  | <i>Tons.</i> | <i>Tons.</i> |
| Hwab Ping.....     | Chinese Government.....            | January 30.....  | January 31.....  | 218          |              |
| Romulus.....       | A. O. Lindvig.....                 | January 31.....  | February 1.....  | 400          |              |
| Laurelleaf.....    | Anglo-Saxon Petroleum Co.....      | January 31.....  | February 2.....  | 8,000        |              |
| Jamaica.....       | Pacific Steam Navigation Co.....   | February 1.....  | February 1.....  | 11           | 7            |
| Laura C. Hall..... | Pacific Metals Corporation.....    | February 2.....  | February 3.....  | 12           |              |
| Corning.....       | Standard Oil Co.....               | February 1.....  | February 3.....  | 6,429        |              |
| Valparaiso.....    | Johnson Line.....                  | February 3.....  | February 3.....  | 27           |              |
| Barima.....        | Pacific Steam Navigation Co.....   | February 3.....  | February 3.....  |              | 1            |
| Imperial.....      | Chilean Line.....                  | February 3.....  | February 4.....  | 35           |              |
| Laura C. Hall..... | Pacific Metals Corporation.....    | February 4.....  |                  |              | 85           |
| Acajutla.....      | Pacific Steam Navigation Co.....   | February 5.....  | February 6.....  | 14           |              |
| Meriden.....       | General Steamship Corporation..... | February 6.....  | February 7.....  | 200          | 40           |
| Mineola.....       | W. R. Grace & Co.....              | February 6.....  | February 6.....  | 43           |              |
| Salvador.....      | Pacific Steam Navigation Co.....   | February 6.....  | February 6.....  | 3            |              |
| Salvador.....      | Pacific Steam Navigation Co.....   | February 8.....  | February 8.....  |              | 16           |
| Manavi.....        | Pacific Steam Navigation Co.....   | February 11..... | February 11..... | 10           |              |
| Cuba.....          | Pacific Mail Steamship Co.....     | February 13..... | February 14..... | 28           | 1            |
| Santa Elisa.....   | W. R. Grace & Co.....              | February 14..... | February 15..... | 1            |              |
| Ecuador.....       | Pacific Mail Steamship Co.....     | February 15..... | February 16..... | 36           |              |
| Manavi.....        | Pacific Steam Navigation Co.....   | February 17..... | February 17..... |              | 7            |
| Laura C. Hall..... | Pacific Metals Corporation.....    | February 17..... | February 18..... | 9            |              |
| Huasco.....        | Chilean Line.....                  | February 17..... | February 18..... | 22           |              |
| Seiyo Maru.....    | Toyo Kisen Kaisha.....             | February 18..... |                  | 15           | 96           |
| Alvarado.....      | Pacific Steam Navigation Co.....   | February 18..... | February 18..... | 8            |              |
| Venezuela.....     | Pacific Mail Steamship Co.....     | February 18..... |                  | 2            | 26           |

**Supplement No. 12 to Tariff "B," Class I—Equipment, Use of.**

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., February 11, 1922.

**ITEM 7.—CAR SERVICE.**

No demurrage charge will be made for Sundays and holidays in the case of cars inspected, lubricated, and given minor repairs by divisions to which regularly assigned.

M. L. WALKER,

*Acting Governor, The Panama Canal.*

*2d Vice President, Panama Railroad Company.*

**Orchids for Ancon Hospital Garden.**

An orchid garden has been begun at Ancon Hospital to supply flowers for the wards and private rooms of the hospital for the benefit of the sick. The hospital would appreciate any contributions in the line of orchids, as there are no funds available for their purchase. Due acknowledgment will be made to contributors.

**Deceased Employees.**

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

| Name.                          | Check No. | Native of—         | Isthmian residence. | Employed by—           | Date of death.    |
|--------------------------------|-----------|--------------------|---------------------|------------------------|-------------------|
| Manuel (Guillermo) Aranda..... | 22361     | Mexico.....        | Panama.....         | Supply Department..... | January 21, 1922. |
| John Vassell.....              | 20471     | Jamaica.....       | Panama.....         | Supply Department..... | January 27, 1922. |
| John M. Keough.....            | 4454      | United States..... | Balboa.....         | Panama Canal.....      | February 5, 1922. |
| James Rouse.....               | 25207     | Barbados.....      | Cristobal.....      | Panama Railroad.....   | January 24, 1922. |
| Samuel Henry Reid.....         | 20540     | Jamaica.....       | Panama.....         | Panama Canal.....      | February 1, 1922. |
| William Warren.....            | 40207     | Jamaica.....       | Colon.....          | Panama Railroad.....   | February 4, 1922. |

## Official Circulars.

### Admission to Docks.

#### THE PANAMA CANAL.

#### EXECUTIVE OFFICE.

BALBOA HEIGHTS, C. Z., February 13, 1922.

#### HEADS OF DEPARTMENTS AND DIVISIONS:

Mimeographed circular of the Governor, dated October 4, 1919, on the above subject, is hereby amended, in so far as concerns the Cristobal dock area, by striking out the present paragraphs 3 and 4 and inserting in place thereof the following: "3. Identification under each of the foregoing headings shall be established in the following manner:

"Items (a), (b), (c), and (f) above referred to upon proper identification by the police officer at the main entrance.

"Representatives of shipping and commercial interests, and contractors or subcontractors and their foremen will be admitted upon annual pass issued by the Executive Secretary upon recommendation of the Receiving and Forwarding Agent after consultation with the Port Captain, the Chief Customs Inspector, and the Police District Commander. Silver gangs of the above concerns shall be checked in by the timekeepers or foremen at the main entrance.

"Silver employees of the U. S. Government: The Panama Canal, or the Panama Railroad will be checked in at the main entrance by the timekeeper or foreman.

"4. Persons not mentioned in the foregoing are denied entrance to the piers and docks, except under special circumstances, which, in the opinion of the Captain of the Port, the Receiving and Forwarding Agent, or the Chief Customs Inspector, justify the issuance of a single trip permit, or in exceptional cases, of a permit for a reasonable period. Each of the above-mentioned officials shall also issue such passes as may be necessary in connection with their duties.

"All persons visiting the docks (with proper pass) as escorts or companions of arriving or departing passengers shall keep clear of the dock aprons and of ships' gangways, and such persons must confine themselves strictly to the dock sheds.

"Outgoing passengers will be permitted to embark at all hours, but vessels upon which such passengers have previously obtained transportation shall be required to receive them on board immediately after their admission within the dock area.

"All traffic excepting employees of the United States Government, The Panama Canal, and Panama Railroad traveling on official business to and from the coaling plant at Cristobal, must enter and leave via the main entrance at the Terminal Building."

M. L. WALKER.

Acting Governor.

NOTE—The effect of the changes made by the above is that the Receiving and Forwarding Agent, instead of the Captain of the Port, has immediate charge of the issuance of annual passes; and that single-trip or "reasonable period" passes may be issued by the Receiving and Forwarding Agent, the Captain of the Port, or the Chief Customs Inspector.

### Scrap Prices.

#### THE PANAMA CANAL.

#### SUPPLY DEPARTMENT.

BALBOA HEIGHTS, C. Z., February 11, 1922.

#### HEADS OF DEPARTMENTS AND DIVISIONS:

Effective February 15, 1922, the following prices will be allowed by the Supply Department for scrap, turned in by the various departments and divisions of The Panama Canal. The selling

prices to departments and divisions, employees, and to individuals and companies are also indicated:

| Kind of scrap.                            | Credit to beallowed divisions. | Issue and sale prices.               |                                              |
|-------------------------------------------|--------------------------------|--------------------------------------|----------------------------------------------|
|                                           |                                | To depart-ments of The Panama Canal. | To em-ployees and individuals and companies. |
|                                           | Short ton.                     | Short ton.                           | Short ton.                                   |
| Cast iron, including car wheels.....      | \$5 00                         | \$6 00                               | \$25 00                                      |
| Miscellaneous wrought iron and steel..... | 3 00                           | 4 00                                 | 20 00                                        |
| Rail scrap, grade No. 4.....              | 3 00                           | 4 00                                 | 20 00                                        |
| Rail, relaying, grade No. 2.....          | 17 00                          | 18 00                                | 35 00                                        |
| Rail, relaying, grade No. 3.....          | 9 00                           | 10 00                                | 30 00                                        |
|                                           | Cwt.                           | Cwt.                                 | Cwt.                                         |
| Aluminum.....                             | 8 00                           | 9 00                                 | 25 00                                        |
| Babbitt.....                              | 2 00                           | 3 00                                 | 10 00                                        |
| Bags and burlap.....                      | .50                            | 1 00                                 |                                              |
| Brass, mixed.....                         | 4 00                           | 5 00                                 | 10 00                                        |
| Brass, borings and turnings.....          | 4 00                           | 5 00                                 | 10 00                                        |
| Bronze screening.....                     | 4 00                           | 5 00                                 | 15 00                                        |
| Canvas.....                               | .50                            | 1 00                                 |                                              |
| Copper, mixed.....                        | 8 00                           | 9 00                                 | 20 00                                        |
| Cork.....                                 | 1 00                           | 2 00                                 | 10 00                                        |
| Hose.....                                 | .50                            | 1 00                                 | 6 00                                         |
| Lead.....                                 | 1 00                           | 2 00                                 | 5 00                                         |
| Leather.....                              | .50                            | 1 00                                 | 3 00                                         |
| Pewter.....                               | 10 00                          | 11 00                                | 50 00                                        |
| Rags.....                                 | .50                            | 1 00                                 | 5 00                                         |
| Rope.....                                 | .50                            | 1 00                                 | 5 00                                         |
| Rubber.....                               | .50                            | 1 00                                 | 6 00                                         |
| Tool steel.....                           | 5 00                           | 6 00                                 | 25 00                                        |
| Zinc.....                                 | 1 00                           | 2 00                                 | 5 00                                         |

ROY R. WATSON,  
Acting Chief Quartermaster.

### Diplomatic and Consular Officers.

The following list of the diplomatic and consular corps accredited to the Republic of Panama as of January 1, 1922, has been furnished by the American Consul at Panama:

#### Panama City.

Argentina, Ricardo C. Acuna, Consul General; Rafael Gutieri.

Belgium, Julio Heurtematte, Consul (Honorary).

Bolivia, Samuel Boyd, Consul General (Honorary).

Brazil, Jorge D. Arias F., Consular Agent (Honorary).

Chile, Juan Antonio Rios, Consul General and Charge d'Affaires; Virgilio Capriles, Consular Agent (Honorary).

China, Woo Pei Kuang, Consul General; Y. S. Lu, Vice Consul.

Cuba, Carlos A. Vasseur y Po, Minister Resident (absent); Osvaldo Lamar y Galvez, Secretary of Legation.

Denmark, Joshua L. Maduro, Consul (Honorary).

Ecuador, Francisco Ochoa Ortiz, Consul General.

Finland, Ramon Arias F., Consul (Honorary).

France, Maurice de Simonin, Charge d'Affaires.

Great Britain, A. Percy Bennett, C. M. G., E. E., and M. P. (absent); Constantine Graham, Charge d'Affaires (Acting Consul, Colon); E. S. Humber, Acting Vice Consul.

Greece, Ramon Arias F., Consul (Honorary).

Guatemala, J. F. Arango, Consul General (Honorary).

Honduras, Marcos E. Velasquez, Consul General (Honorary).



*Italy*, L. Delpiano (in charge) Consul Regent.  
*Japan*, Kisaku Ichikawa, Consul.

*Mexico*, F. Ballesteros, Consul; E. Espino, Cancellor.

*The Netherlands*, David M. Sasso, Consul General (Honorary).

*Nicaragua*, Marcos E. Velasquez, Charge d'Affaires and Consul General.

*Norway*, T. H. Jacome, Vice Consul (Honorary).

*Paraguay*, Juan Brin, Consul General (Honorary).

*Peru*, Guillermo Espantoso, Consul General and Charge d'Affaires; Julio C. Piedra, C., Chancellor; Alberto B. de Obarrio, Consular Agent (Honorary).

*Portugal*, Jose Arango, Consul (Honorary); Esteban Duran, Vice Consul (Honorary).

*Salvador*, Ernesto A. Boyd, Consul General (Honorary).

*Spain*, Tomas Rodriguez y Rodriguez, Charge d'Affaires and Consul.

*Sweden*, B. Malo, Consul (Honorary).

*Switzerland*, Jose Misteli, Consul (Honorary); Alberto Antenen, Chancellor (Honorary).

*United States*, John G. South, E. E. and M. P.; J. Donald B. Rogers, Secretary of Legation; Maj. Fred T. Cruse, Military Attaché; George Orr, Consul; Harry D. Myers, Vice Consul.

*Venezuela*, Virgilio Capriles, Vice Consul (Honorary).

### Colon.

*Belgium*, J. J. Henriquez, Vice Consul (Honorary).

*Bolivia*, Jorge E. Boyd, Acting Consul (Honorary).

*Chile*, J. V. Delgado, Consul (Honorary).

*Cuba*, Jose Dominguez Romay, Consul; Beren Cervantes, Cancellor.

*Denmark*, J. V. Beverhoudt, Vice Consul (Honorary).

*France*, Lucien Lapesteur, Chancellor (absent); Teomel Hauradon, Acting Chancellor.

*Great Britain*, William Ewing, Acting Consul (actual title, Vice Consul, Panama City); Hugh W. Border, Vice Consul.

*Guatemala*, Vicente Delgado, Consul (Honorary).

*Haiti*, H. V. Seixas, Consul General (Honorary).

*Honduras*, Ramon Garcia de Paredes, Vice Consul (Honorary).

*Italy*, Dr. Miguel Papio, Consular Agent (Honorary).

*Mexico*, Inocencio Galindo, Vice Consul (Honorary).

*The Netherlands*, J. J. Ecker, Consul (Honorary).

*Nicaragua*, Roberto Feuillebois, Consul (Honorary).

*Norway*, D. S. Webster, Acting Consul (Honorary); Sigurd Schjott, Vice Consul (Honorary).

*Peru*, J. C. Mejia, Consul (Honorary).

*Portugal*, Ruben S. Arcia, Consul (Honorary); Ofilio Hazera, Vice Consul (Honorary).

*Santo Domingo*, Joshua J. Henriquez, Vice Consul (Honorary).

*Spain*, Francisco Andrade Polanco, Consul (Honorary).

*Sweden*, J. J. Ecker, Vice Consul (Honorary).

*United States*, Dr. Julius D. Dreher, Consul; Odin G. Loren, Vice Consul.

*Venezuela*, Fernando Diaz Paul, Consul General.

### Bocas del Toro.

*Great Britain*, William H. Ponton, Vice Consul.  
*Nicaragua*, Solomon H. Canoan, Consul (Honorary).

*Portugal*, E. C. McFarland, Vice Consul (Honorary).

*United States*, W. M. Denby, Consular Agent.

### David.

*France*, Eugene Loeffler, Vice Consul (Honorary).

*Spain*, Emilio Olave, Consular Agent (Honorary).

### Santiago de Veraguas.

*Spain*, Julio Garcia Sierra, Vice Consul (Honorary).

### Colombia.

Colombia has no diplomatic or consular representative in Panama. Ernesto Lozada, Private Postal Agent, is in charge of Colombian affairs in Panama City. Miguel Vargas is Private Postal Agent at Colon.

### Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line), Pacific Mail Steamship Company, and Matson Line. The two last named charge \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

### Typewriters For Sale.

The Supply Department has on sale a number of Underwood typewriters, second hand, model 4. Price range from \$20 to \$30. Inspection can be made by applying to Storekeeper, S. D., administration Building, Balboa Heights.

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

### Certificate.

By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.



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Volume XV.

Balboa Heights, C. Z., March 1, 1922.

No. 29.

## CANAL WORK IN JANUARY.

The following is the report of the Acting Governor to the Secretary of War, of Canal work in the month of January, 1922:

BALBOA HEIGHTS, C. Z., February 18, 1922.

*The Honorable, the Secretary of War,  
Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of January, 1922:

### CANAL TRAFFIC.

The total number of vessels and craft of all kinds transiting the Canal during the month of January, 1922, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                                 | January,<br>1922. | December,<br>1921. | January,<br>1921. |
|-------------------------------------------------|-------------------|--------------------|-------------------|
| Commercial vessels.....                         | 210               | 239                | 279               |
| Noncommercial vessels.....                      | 22                | 35                 | 74                |
| Launches, etc. (under 10 tons measurement)..... | 6                 | 4                  | 1                 |
| Total vessels and craft through Canal.....      | 238               | 278                | 354               |

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, craneboats, graders, etc., was passed through the locks as follows: Gatun, 20; Pedro Miguel, 52; Miraflores, 46.

### COMMERCIAL TRAFFIC.<sup>1</sup>

#### Tolls.

Under the present dual method of assessing tolls, the revenue from this source was \$847,767.55. Had the net tonnage as determined by The Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the total revenue would have been increased by \$157,927.83. These additional tolls would have been contributed by nationality of vessels as follows:

|                    | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------|----------------------------|----------------------------|-------------|
| British.....       | \$37,879.60                | \$14,206.90                | \$52,086.50 |
| Chilean.....       | 2,703.65                   | 2,699.00                   | 5,402.65    |
| Danish.....        |                            | 406.70                     | 406.70      |
| Dutch.....         | 4,123.95                   | 1,365.80                   | 5,489.75    |
| French.....        |                            | 439.70                     | 439.70      |
| German.....        | 1,831.80                   | 885.05                     | 2,716.85    |
| Italian.....       | 1,481.30                   | 447.55                     | 1,928.85    |
| Japanese.....      | 2,239.25                   | 1,515.70                   | 3,754.95    |
| Norwegian.....     | 1,997.40                   | 116.30                     | 2,113.70    |
| Panamanian.....    |                            | 2.07                       | 2.07        |
| Peruvian.....      | 3,016.90                   | 3,016.90                   | 6,033.80    |
| Swedish.....       | 108.65                     |                            | 108.65      |
| United States..... | 41,392.00                  | 36,055.80                  | 77,447.80   |
| Totals.....        | 96,774.50                  | 61,153.33                  | 157,927.83  |

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Ships not paying tolls are classed as "noncommercial."

<sup>2</sup> Gain.

The additional tolls paid by United States vessels would have been distributed among the following channels of trade:

|                                          | Atlantic to Pacific. | Pacific to Atlantic. | Total.      |
|------------------------------------------|----------------------|----------------------|-------------|
| United States coastwise ports .....      | \$25,912.85          | \$23,238.40          | \$49,151.25 |
| United States and Canal Zone ports ..... | 774.70               | 528.10               | 1,302.80    |
| United States and foreign ports.....     | 13,129.10            | 12,289.30            | 25,418.40   |
| Between foreign ports.....               | 1,575.35             |                      | 1,575.35    |
| Totals.....                              | 41,392.00            | 36,055.80            | 77,447.80   |

Of the above \$157,927.83 additional revenue that would have been collected by using The Panama Canal rules exclusively, \$6,759.60 represents the additional tolls that would have been collected on account of deck cargo.

#### COMPARATIVE TRAFFIC STATISTICS.

The following tabulations permit a ready comparison of commercial traffic through the Canal in January, 1922, with that of the preceding months, along the lines indicated at the head of the various tables:

#### TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | January, 1922. | December, 1921. | January, 1921. | Average month for past year. |
|-------------------------------------------|----------------|-----------------|----------------|------------------------------|
| United States equivalent net tonnage..... | 689,035        | 827,340         | 894,689        | 768,671                      |
| Panama Canal net tonnage.....             | 846,516        | 1,017,244       | 1,094,223      | 944,794                      |
| Registered gross tonnage.....             | 1,069,840      | 1,284,499       | 1,383,778      | 1,193,974                    |
| Registered net tonnage.....               | 691,648        | 820,431         | 883,362        | 762,859                      |
| Tolls.....                                | \$847,767.55   | \$1,003,598.27  | \$1,095,857.47 | \$931,451.26                 |
| Cargo.....                                | 807,298        | 953,053         | 1,177,053      | 885,716                      |

#### UNITED STATES COASTWISE TRAFFIC.

|                    | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|--------------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                    | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.              |                      |                    |             |                |                      |                    |             |                |
| January.....       | 17                   | 88,086             | \$91,390.00 | 76,593         | 16                   | 62,765             | \$64,343.59 | 81,336         |
| February.....      | 15                   | 80,940             | 79,169.10   | 67,302         | 17                   | 66,043             | 66,703.70   | 68,345         |
| March.....         | 16                   | 71,770             | 75,338.65   | 55,111         | 11                   | 61,804             | 64,470.64   | 52,289         |
| April.....         | 19                   | 92,033             | 94,185.00   | 94,484         | 14                   | 68,368             | 65,523.74   | 59,306         |
| May.....           | 19                   | 82,257             | 84,545.85   | 90,617         | 16                   | 75,593             | 72,813.55   | 93,242         |
| June.....          | 17                   | 96,199             | 94,577.11   | 68,809         | 11                   | 53,986             | 53,933.75   | 57,234         |
| July.....          | 19                   | 101,924            | 99,474.75   | 60,997         | 14                   | 70,477             | 72,103.75   | 91,991         |
| August.....        | 19                   | 86,278             | 81,724.17   | 55,387         | 23                   | 110,899            | 118,316.25  | 129,792        |
| September.....     | 25                   | 134,239            | 136,340.58  | 72,620         | 15                   | 88,111             | 83,011.64   | 104,642        |
| October.....       | 22                   | 113,712            | 116,752.05  | 86,442         | 19                   | 96,731             | 101,710.00  | 105,951        |
| November.....      | 24                   | 136,349            | 131,558.19  | 91,067         | 17                   | 86,958             | 88,339.80   | 101,460        |
| December.....      | 20                   | 104,152            | 106,549.80  | 73,967         | 23                   | 116,482            | 117,600.08  | 105,134        |
| January, 1922..... | 28                   | 138,923            | 141,404.35  | 119,413        | 20                   | 108,921            | 111,440.00  | 86,862         |

#### UNITED STATES SHIPPING BOARD VESSELS.

|                    | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|--------------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                    | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.              |                      |                    |             |                |                      |                    |             |                |
| January.....       | 14                   | 59,738             | \$64,769.85 | 70,058         | 23                   | 96,877             | \$93,268.29 | 98,075         |
| February.....      | 8                    | 41,024             | 42,951.75   | 35,018         | 20                   | 96,441             | 94,082.01   | 108,285        |
| March.....         | 18                   | 94,823             | 96,782.80   | 83,978         | 8                    | 34,066             | 31,378.00   | 30,025         |
| April.....         | 13                   | 61,176             | 61,590.00   | 60,231         | 12                   | 56,049             | 53,162.18   | 52,908         |
| May.....           | 9                    | 39,614             | 40,180.00   | 48,489         | 21                   | 97,257             | 92,380.47   | 114,107        |
| June.....          | 17                   | 86,361             | 78,770.14   | 65,945         | 11                   | 49,370             | 48,080.00   | 59,696         |
| July.....          | 12                   | 67,851             | 65,796.25   | 29,918         | 12                   | 60,804             | 61,305.00   | 82,767         |
| August.....        | 15                   | 76,570             | 71,607.58   | 46,542         | 18                   | 79,390             | 77,353.39   | 91,897         |
| September.....     | 10                   | 53,816             | 51,785.48   | 38,368         | 16                   | 84,433             | 82,566.25   | 109,610        |
| October.....       | 10                   | 55,300             | 53,475.00   | 34,593         | 14                   | 61,980             | 62,318.75   | 79,123         |
| November.....      | 12                   | 74,635             | 71,525.74   | 44,976         | 5                    | 29,949             | 29,127.50   | 28,865         |
| December.....      | 9                    | 47,604             | 46,318.75   | 44,101         | 6                    | 32,957             | 32,803.75   | 28,784         |
| January, 1922..... | 6                    | 31,546             | 34,756.25   | 23,575         | 7                    | 31,550             | 30,646.95   | 28,831         |

## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

|                                           | January,<br>1922. | December,<br>1921. | January,<br>1921. |
|-------------------------------------------|-------------------|--------------------|-------------------|
| United States equivalent net tonnage..... | 3,281             | 3,461              | 3,207             |
| Panama Canal net tonnage.....             | 4,031             | 4,256              | 3,922             |
| Registered gross tonnage.....             | 5,095             | 5,378              | 4,960             |
| Registered net tonnage.....               | 3,294             | 3,432              | 3,166             |
| Tolls.....                                | \$4,036.99        | \$4,199.15         | \$3,927.80        |
| Tons of cargo (all vessels).....          | 3,844             | 3,987              | 3,859             |
| Tons of cargo (laden vessels only).....   | 4,160             | 4,412              | 4,746             |

## COMMODITY STATISTICS.

A classification of cargo passing through the Canal during the month of January, 1922, has been compiled from declarations of cargo submitted by the ships' masters, and while incomplete, is indicative of the kind and quantity of the various commodities carried by ships transiting the Canal. From the cargo declarations and manifests submitted, it was possible to classify by commodities 73.7 per cent of all cargo passing from the Atlantic to the Pacific, and 91 per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith:

| Commodity.                                  | January,<br>1922. | December,<br>1921. | November,<br>1921. | October,<br>1921. | September,<br>1921. |
|---------------------------------------------|-------------------|--------------------|--------------------|-------------------|---------------------|
| Atlantic to Pacific.                        |                   |                    |                    |                   |                     |
| Oil:                                        |                   |                    |                    |                   |                     |
| Crude.....                                  | 65,862            | 48,272             | 30,144             | 68,891            | 17,981              |
| Refined.....                                | 28,407            | 46,970             | 47,944             | 25,840            | 19,781              |
| Other.....                                  | 6,230             | 1,918              | 3,113              | 1,121             | 2,088               |
| Manufactured goods:                         |                   |                    |                    |                   |                     |
| Iron and steel.....                         | 78,020            | 81,168             | 65,071             | 48,074            | 50,488              |
| Machinery, railroad material, textiles..... | 38,689            | 24,120             | 23,927             | 14,659            | 19,331              |
| Coal and coke.....                          | 37,587            | 46,462             | 52,850             | 21,512            | 16,040              |
| Cotton, raw.....                            | 8,793             | 37,614             | 20,807             | 14,725            | 19,207              |
| Metals.....                                 | 10,992            | 22,007             | 10,052             | 8,880             | 8,467               |
| Ammonia.....                                | 10,767            | 11,592             | 7,447              | 12,072            | 4,749               |
| Cement.....                                 | 2,675             | 10,809             | 5,233              | 2,681             | 1,834               |
| Paper.....                                  | 2,569             | 5,077              | 2,900              | 2,813             | 1,210               |
| Sulphur.....                                | 18,025            | 4,000              | 2,500              |                   | 11,551              |
| Tobacco.....                                | 1,831             | 3,086              | 2,075              | 2,879             | 2,452               |
| Other and general.....                      | 183,144           | 174,015            | 112,618            | 150,290           | 125,541             |
| Totals.....                                 | 493,591           | 517,110            | 386,681            | 374,437           | 300,720             |
| Pacific to Atlantic.                        |                   |                    |                    |                   |                     |
| Nitrate.....                                | 46,716            | 59,957             | 39,523             | 54,256            | 22,758              |
| Manufactured goods—Iron, steel, etc.....    | 2,369             | 2,550              | 265                | 1,053             | 556                 |
| Wheat.....                                  | 29,333            | 35,127             | 110,831            | 128,375           | 75,486              |
| Lumber.....                                 | 57,347            | 42,610             | 50,564             | 56,606            | 26,750              |
| Barley.....                                 | 8,462             | 21,781             | 37,989             | 67,092            | 107,831             |
| Oils:                                       |                   |                    |                    |                   |                     |
| Crude.....                                  |                   | 4,723              | 26,617             | 670               | 4,820               |
| Refined.....                                | 42                | 16,165             | 10,169             | 9,713             | 18,278              |
| Other.....                                  | 1,958             | 14,469             | 761                | 1,581             | 1,545               |
| Canned goods:                               |                   |                    |                    |                   |                     |
| Fish.....                                   | 9,246             | 5,202              | 13,767             | 32,761            | 17,232              |
| Fruit.....                                  | 11,729            | 15,982             | 19,808             | 25,547            | 35,427              |
| Vegetables, milk.....                       | 890               | 1,660              | 1,470              | 2,523             | 4,302               |
| Ores.....                                   | 10,647            | 9,805              | 13,218             | 3,824             | 6,433               |
| Metals.....                                 | 14,234            | 10,959             | 14,515             | 11,078            | 10,516              |
| Fruit, fresh and dried.....                 | 8,697             | 3,876              | 13,060             | 4,162             | 6,664               |
| Sugar.....                                  | 12,679            | 29,879             | 11,210             | 20,261            | 6,657               |
| Beans, peas, lentils.....                   | 5,088             | 5,351              | 9,270              | 20,547            | 6,774               |
| Flour.....                                  | 1,017             | 8,881              | 8,799              | 19,000            | 15,101              |
| Phosphates.....                             | 7,930             | 8,900              | 7,800              | 14,057            |                     |
| Cold storage—meats.....                     | 5,786             | 13,809             | 4,020              | 18,739            | 10,600              |
| Cotton.....                                 | 4,238             | 6,660              | 4,886              | 12,592            | 5,392               |
| Rice.....                                   | 1,621             | 6,401              | 4,678              | 4,054             | 7,205               |
| Wool.....                                   | 16,024            | 5,555              | 4,349              | 9,081             | 5,522               |
| Coffee.....                                 | 3,775             | 4,529              | 3,785              | 4,594             | 6,013               |
| Ivory nuts.....                             | 2,717             | 2,482              | 3,012              | 2,811             | 3,164               |
| Cacao.....                                  | 3,917             | 4,745              | 2,862              | 3,844             | 4,327               |
| Tea.....                                    | 410               | 1,394              | 1,983              | 3,950             | 546                 |
| Other and general.....                      | 46,835            | 92,491             | 49,148             | 78,567            | 44,275              |
| Totals.....                                 | 313,707           | 435,943            | 468,759            | 611,338           | 454,174             |

## TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

All cargo-carrying vessels pay tolls on their net tonnage as determined by established rules for measuring their available cargo-carrying space; the rate of such tolls per cargo ton varies in different ships as the ratio of cargo tonnage to the net tonnage. The table below is indicative of the ratio of cargo tonnage to net tonnage for the month of January, 1922, by nationality of vessels:

|                                             | Atlantic<br>to<br>Pacifc. | Pacific<br>to<br>Atlantic. | General<br>average. |
|---------------------------------------------|---------------------------|----------------------------|---------------------|
| British.....                                | \$1.07                    | \$1.02                     | \$1.05              |
| Chilean.....                                | 1.57                      | 4.61                       | 2.15                |
| Danish.....                                 | .85                       | 1.71                       | 1.12                |
| Dutch.....                                  | 1.08                      | .84                        | .96                 |
| French.....                                 | 10.98                     | .72                        | 2.13                |
| German.....                                 | 1.51                      | .53                        | .92                 |
| Italian.....                                | 5.72                      | .83                        | 1.88                |
| Japanese.....                               | .78                       | .88                        | .83                 |
| Norwegian.....                              | .69                       | 6.89                       | 1.04                |
| Peruvian.....                               | 7.57                      | .82                        | 1.47                |
| Swedish.....                                | .70                       | .....                      | .70                 |
| United States.....                          | 1.01                      | 1.11                       | 1.05                |
| Average rate all ships, January, 1922.....  | 1.04                      | 1.06                       | 1.05                |
| Average rate all ships, December, 1921..... | 1.10                      | .99                        | 1.05                |
| Average rate all ships, November, 1921..... | 1.19                      | .81                        | .98                 |

## ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past 14 months, the figures representing the Panama Canal net tonnage:

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.              | East coast<br>of United<br>States. | Europe. | Mexico. | Cristobal. | Miscel-<br>laneous. | Total.  |
|---------------------|------------------------------------|---------|---------|------------|---------------------|---------|
| December, 1920..... | 332,418                            | 128,739 | 53,070  | 36,097     | 4,608               | 554,932 |
| January, 1921.....  | 284,111                            | 129,939 | 60,564  | 21,373     | 21,732              | 517,719 |
| February.....       | 268,727                            | 75,532  | 55,859  | 18,844     | 16,271              | 435,233 |
| March.....          | 291,937                            | 188,548 | 85,275  | 20,731     | 27,100              | 613,591 |
| April.....          | 261,497                            | 131,840 | 46,289  | 21,846     | 31,034              | 492,506 |
| May.....            | 231,751                            | 107,404 | 48,151  | 20,612     | 6,511               | 414,429 |
| June.....           | 250,806                            | 79,129  | 37,401  | 28,920     | 19,046              | 415,302 |
| July.....           | 221,318                            | 124,108 | 23,167  | 23,483     | 10,970              | 403,051 |
| August.....         | 257,600                            | 175,768 | 15,527  | 21,202     | 17,122              | 487,219 |
| September.....      | 277,984                            | 160,534 | 10,889  | 23,038     | 58,189              | 530,634 |
| October.....        | 262,440                            | 226,431 | 27,828  | 20,516     | 33,960              | 571,175 |
| November.....       | 301,680                            | 192,594 | 14,997  | 18,444     | 11,302              | 539,017 |
| December.....       | 312,225                            | 198,287 | 21,113  | 15,601     | 28,443              | 575,669 |
| January, 1922.....  | 279,870                            | 153,315 | 30,271  | 18,398     | 31,910              | 513,764 |
| Average month.....  | 273,884                            | 148,012 | 37,886  | 22,079     | 22,728              | 504,589 |

## DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.              | West coast<br>of United<br>States. | West coast<br>of South<br>America. | Far East. | Austral-<br>asia. | Miscel-<br>laneous. | Total.  |
|---------------------|------------------------------------|------------------------------------|-----------|-------------------|---------------------|---------|
| December, 1920..... | 91,963                             | 248,176                            | 99,594    | 84,168            | 31,031              | 554,932 |
| January, 1921.....  | 163,295                            | 170,861                            | 56,082    | 94,583            | 32,898              | 517,719 |
| February.....       | 119,271                            | 168,904                            | 66,958    | 62,507            | 17,593              | 435,233 |
| March.....          | 139,889                            | 146,075                            | 118,053   | 153,910           | 55,064              | 613,591 |
| April.....          | 141,584                            | 135,622                            | 131,637   | 64,155            | 19,508              | 492,506 |
| May.....            | 125,091                            | 103,143                            | 82,499    | 82,582            | 21,114              | 414,429 |
| June.....           | 143,217                            | 106,369                            | 83,063    | 46,298            | 36,355              | 415,302 |
| July.....           | 194,358                            | 45,391                             | 63,989    | 58,062            | 41,271              | 403,051 |
| August.....         | 161,577                            | 106,886                            | 94,486    | 70,551            | 59,719              | 487,219 |
| September.....      | 268,758                            | 90,105                             | 80,242    | 53,399            | 38,220              | 530,634 |
| October.....        | 280,483                            | 78,532                             | 100,332   | 69,057            | 42,771              | 571,175 |
| November.....       | 216,092                            | 107,721                            | 95,216    | 78,493            | 41,495              | 539,017 |
| December.....       | 188,615                            | 115,980                            | 136,940   | 84,391            | 49,743              | 575,669 |
| January, 1922.....  | 170,927                            | 112,160                            | 100,878   | 83,526            | 46,273              | 513,764 |
| Average month.....  | 172,009                            | 123,995                            | 93,568    | 77,542            | 37,475              | 504,589 |



## ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.              | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|---------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| December, 1920..... | 145,192                      | 239,389                      | 11,146    | 58,175       | 19,084         | 472,986 |
| January, 1921.....  | 151,034                      | 230,437                      | 26,843    | 115,206      | 53,084         | 576,604 |
| February.....       | 173,815                      | 226,242                      | 22,473    | 34,616       | 24,459         | 481,605 |
| March.....          | 163,294                      | 203,062                      | 28,525    | 62,652       | 41,754         | 499,227 |
| April.....          | 139,495                      | 168,585                      | 29,756    | 85,560       | 38,601         | 462,997 |
| May.....            | 174,128                      | 137,258                      | 12,407    | 81,086       | 45,309         | 450,188 |
| June.....           | 116,521                      | 112,474                      | 18,740    | 75,400       | 23,040         | 346,175 |
| July.....           | 174,412                      | 99,745                       | 41,084    | 70,121       | 22,197         | 407,562 |
| August.....         | 229,629                      | 110,248                      | 20,628    | 68,661       | 48,894         | 478,067 |
| September.....      | 218,453                      | 84,212                       | 14,762    | 30,814       | 46,262         | 394,503 |
| October.....        | 252,645                      | 124,560                      | 37,720    | 41,436       | 42,018         | 498,379 |
| November.....       | 189,942                      | 126,381                      | 23,556    | 6,581        | 56,934         | 403,394 |
| December.....       | 195,969                      | 135,952                      | 28,194    | 39,616       | 41,844         | 441,575 |
| January, 1922.....  | 152,992                      | 100,224                      | 16,860    | 27,172       | 35,504         | 332,752 |
| Average month.....  | 176,838                      | 149,908                      | 23,764    | 56,935       | 38,499         | 446,144 |

## DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.              | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|---------------------|---------|------------------------------|---------|------------|----------------|---------|
| December, 1920..... | 198,618 | 157,070                      | 69,008  | 34,099     | 14,191         | 472,986 |
| January, 1921.....  | 293,836 | 188,133                      | 49,947  | 23,295     | 21,393         | 576,604 |
| February.....       | 175,324 | 163,690                      | 74,363  | 18,056     | 50,174         | 481,605 |
| March.....          | 190,683 | 189,793                      | 83,700  | 21,228     | 13,823         | 499,227 |
| April.....          | 189,209 | 197,311                      | 53,334  | 22,043     | 1,100          | 462,997 |
| May.....            | 201,548 | 140,940                      | 73,705  | 21,549     | 12,445         | 450,188 |
| June.....           | 155,147 | 136,292                      | 18,324  | 26,112     | 10,300         | 346,175 |
| July.....           | 205,690 | 134,047                      | 23,123  | 28,770     | 15,932         | 407,562 |
| August.....         | 231,830 | 194,279                      | 27,256  | 22,022     | 2,670          | 478,067 |
| September.....      | 204,820 | 140,555                      | 26,478  | 17,114     | 5,536          | 394,503 |
| October.....        | 259,613 | 170,189                      | 18,222  | 30,955     | 19,490         | 498,379 |
| November.....       | 196,974 | 164,345                      | 20,446  | 16,760     | 4,869          | 403,394 |
| December.....       | 191,277 | 192,575                      | 25,550  | 21,739     | 10,434         | 441,575 |
| January, 1922.....  | 115,392 | 168,337                      | 26,831  | 16,489     | 5,703          | 332,752 |
| Average month.....  | 200,712 | 166,968                      | 42,163  | 22,874     | 13,427         | 446,144 |

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of January, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

|                                  | Tonnage routed to— |                    | Tonnage routed from— |                    |
|----------------------------------|--------------------|--------------------|----------------------|--------------------|
|                                  | Per cent increase. | Per cent decrease. | Per cent increase.   | Per cent decrease. |
| Europe.....                      | .....              | 42.5               | 3.6                  | .....              |
| East coast of United States..... | 1.0                | .....              | 2.2                  | .....              |
| East coast of Mexico.....        | .....              | 36.5               | .....                | 20.1               |
| Cristobal, C. Z.....             | .....              | 27.6               | .....                | 16.7               |
| West coast of United States..... | .....              | 0.6                | .....                | 13.5               |
| West coast of South America..... | .....              | 9.5                | .....                | 33.1               |
| Australasia.....                 | 7.7                | .....              | .....                | 52.2               |
| Far East.....                    | 6.7                | .....              | .....                | 29.0               |

## TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of January, 1922, has been previously compiled and was published in THE PANAMA CANAL RECORD under date of February 15, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes for the month of January, 1922, for the preceding month, and for the corresponding month of last year:

| Vessels plying between—               | Atlantic to Pacific.      |                 |                | Pacific to Atlantic.      |                 |                |
|---------------------------------------|---------------------------|-----------------|----------------|---------------------------|-----------------|----------------|
|                                       | January, 1922.            | December, 1921. | January, 1921. | January, 1922.            | December, 1921. | January, 1921. |
|                                       | Number of vessels.        |                 |                | Number of vessels.        |                 |                |
| United States coastwise .....         | 28                        | 20              | 17             | 20                        | 23              | 16             |
| United States and Far East .....      | 15                        | 27              | 12             | 2                         | 5               | 6              |
| Europe and United States .....        | 7                         | 15              | 7              | 7                         | 12              | 15             |
| United States and South America ..... | 11                        | 10              | 23             | 9                         | 10              | 25             |
| Europe and South America .....        | 12                        | 12              | 12             | 11                        | 19              | 24             |
| Cristobal and South America .....     | 10                        | 9               | 11             | 10                        | 9               | 10             |
| Europe and Australasia .....          | 10                        | 8               | 5              | 4                         | 5               | 14             |
| United States and Australasia .....   | 4                         | 5               | 12             | 2                         | 1               | 3              |
| Europe and Canada .....               | 4                         | 4               | 3              | 4                         | 2               | 4              |
| Mexico and United States .....        | 4                         | 1               | 3              | 1                         | 2               | 1              |
| Mexico and South America .....        | 4                         | 2               | 7              | 3                         | 1               | 6              |
| Miscellaneous .....                   | 20                        | 22              | 22             | 12                        | 15              | 21             |
| Totals .....                          | 125                       | 135             | 134            | 85                        | 104             | 145            |
|                                       | Panama Canal net tonnage. |                 |                | Panama Canal net tonnage. |                 |                |
|                                       | January, 1922.            | December, 1921. | January, 1921. | January, 1922.            | December, 1921. | January, 1921. |
|                                       | Tons of cargo carried.    |                 |                | Tons of cargo carried.    |                 |                |
| United States coastwise .....         | 138,928                   | 104,152         | 88,086         | 108,921                   | 116,482         | 62,765         |
| United States and Far East .....      | 81,449                    | 127,353         | 51,263         | 10,475                    | 24,572          | 26,843         |
| Europe and United States .....        | 28,243                    | 63,732          | 37,549         | 31,964                    | 62,655          | 77,381         |
| United States and South America ..... | 32,227                    | 38,745          | 69,204         | 29,283                    | 33,707          | 70,513         |
| Europe and South America .....        | 45,525                    | 49,830          | 47,599         | 42,789                    | 85,435          | 96,358         |
| Cristobal and South America .....     | 13,936                    | 10,947          | 15,846         | 12,749                    | 11,759          | 14,378         |
| Europe and Australasia .....          | 57,000                    | 56,151          | 30,946         | 18,560                    | 31,395          | 101,145        |
| United States and Australasia .....   | 22,366                    | 22,746          | 63,637         | 8,612                     | 4,127           | 14,061         |
| Europe and Canada .....               | 18,615                    | 20,914          | 12,927         | 22,079                    | 10,431          | 18,952         |
| Mexico and United States .....        |                           | 4,903           | 15,748         | 5,043                     | 13,033          | 5,234          |
| Mexico and South America .....        | 20,472                    | 10,362          | 34,331         | 15,403                    | 5,051           | 27,795         |
| Miscellaneous .....                   | 55,003                    | 65,834          | 50,583         | 26,874                    | 42,928          | 61,179         |
| Totals .....                          | 513,764                   | 575,669         | 517,719        | 332,752                   | 441,575         | 576,604        |
|                                       | Tons of cargo carried.    |                 |                | Tons of cargo carried.    |                 |                |
|                                       | January, 1922.            | December, 1921. | January, 1921. | January, 1922.            | December, 1921. | January, 1921. |
|                                       | Tons of cargo carried.    |                 |                | Tons of cargo carried.    |                 |                |
| United States coastwise .....         | 119,413                   | 73,967          | 76,593         | 86,862                    | 103,134         | 81,336         |
| United States and Far East .....      | 121,939                   | 194,595         | 82,248         | 14,845                    | 28,182          | 25,039         |
| Europe and United States .....        | 20,877                    | 31,004          | 15,292         | 48,186                    | 91,812          | 106,140        |
| United States and South America ..... | 16,702                    | 13,313          | 96,171         | 30,848                    | 31,659          | 81,531         |
| Europe and South America .....        | 17,912                    | 28,989          | 28,081         | 53,813                    | 109,202         | 143,845        |
| Cristobal and South America .....     | 2,258                     | 2,089           | 7,744          | 6,194                     | 7,436           | 5,742          |
| Europe and Australasia .....          | 46,096                    | 40,269          | 26,715         | 20,279                    | 32,981          | 83,358         |
| United States and Australasia .....   | 22,634                    | 27,430          | 78,221         | 8,800                     | 1,347           | 22,399         |
| Europe and Canada .....               | 15,872                    | 17,233          | 5,075          | 26,395                    | 11,916          | 26,360         |
| Mexico and United States .....        |                           | 11,000          | 29,000         |                           |                 |                |
| Mexico and South America .....        | 37,152                    | 18,500          | 61,930         |                           |                 |                |
| Miscellaneous .....                   | 72,736                    | 58,721          | 50,088         | 17,485                    | 16,274          | 39,145         |
| Totals .....                          | 493,591                   | 517,110         | 557,158        | 313,707                   | 435,943         | 619,895        |

## VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships, and other nongargo-carrying vessels, are shown in the following tabulation:

|                     | Atlantic to Pacific. |                           |             | Pacific to Atlantic. |                           |            |
|---------------------|----------------------|---------------------------|-------------|----------------------|---------------------------|------------|
|                     | No. of ships.        | Panama Canal net tonnage. | Tolls.      | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
|                     |                      |                           |             |                      |                           |            |
| British .....       | 4                    | 14,586                    | \$10,501.92 | 1                    | 5,311                     | \$3,823.92 |
| Danish .....        | 1                    | 180                       | 129.60      | 2                    | 2,238                     | 1,611.36   |
| Japanese .....      |                      |                           |             | 1                    | 6,385                     | 4,597.20   |
| Norwegian .....     |                      |                           |             | 2                    | 10,094                    | 7,267.68   |
| Panaman .....       |                      |                           |             | 1                    | 69                        | 51.75      |
| United States ..... | 1                    | 350                       | 252.00      | 1                    | 5,041                     | 3,629.52   |
| Totals .....        | 6                    | 15,116                    | 10,883.52   | 8                    | 29,138                    | 20,981.43  |

## LATIN-AMERICAN TRAFFIC.

The following tabulations show the number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality:

## ATLANTIC TO PACIFIC.

| Nationality.                 | No. of ships. | Tonnage.                  |                   |             |         | Tolls.      | Tons of cargo. |
|------------------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                              |               | United States equivalent. | Panama Canal net. | Registered. |         |             |                |
|                              |               |                           |                   | Gross.      | Net.    |             |                |
| British .....                | 23            | 53,910                    | 67,838            | 89,625      | 55,793  | \$65,387.58 | 61,070         |
| Chilean .....                | 3             | 4,703                     | 7,152             | 8,883       | 5,331   | 5,878.75    | 3,750          |
| Danish .....                 | 1             | 167                       | 180               | 360         | 170     | 129.60      |                |
| Dutch .....                  | 1             | 2,290                     | 3,660             | 3,689       | 2,291   | 2,862.50    | 685            |
| French .....                 | 1             | 4,288                     | 4,409             | 5,564       | 3,524   | 5,290.80    | 175            |
| German .....                 | 2             | 4,764                     | 6,489             | 7,856       | 4,778   | 5,955.00    | 3,946          |
| Italian .....                | 2             | 5,822                     | 7,299             | 10,044      | 5,836   | 7,277.50    | 1,273          |
| Japanese .....               | 3             | 12,361                    | 13,087            | 17,504      | 12,082  | 15,195.45   | 17,699         |
| Norwegian .....              | 3             | 8,216                     | 9,467             | 11,992      | 7,591   | 10,157.75   | 14,316         |
| Peruvian .....               | 2             | 2,710                     | 5,337             | 9,147       | 4,763   | 3,387.50    | 480            |
| Swedish .....                | 1             | 1,091                     | 1,227             | 1,825       | 1,282   | 1,363.75    | 1,943          |
| United States .....          | 11            | 25,271                    | 31,775            | 39,748      | 25,477  | 31,362.35   | 33,303         |
| Totals, January, 1922 .....  | 53            | 125,593                   | 157,920           | 206,237     | 128,918 | 154,248.53  | 138,640        |
| Totals, December, 1921 ..... | 52            | 131,175                   | 164,366           | 213,863     | 133,282 | 156,141.99  | 119,860        |
| Totals, January, 1921 .....  | 75            | 181,708                   | 224,467           | 285,838     | 177,278 |             | 266,102        |

## PACIFIC TO ATLANTIC.

| Nationality.                | No. of ships. | Tonnage.                  |                   |            |         | Tolls.      | Tons of cargo. <sup>1</sup> |
|-----------------------------|---------------|---------------------------|-------------------|------------|---------|-------------|-----------------------------|
|                             |               | United States equivalent. | Panama Canal net. | Registered |         |             |                             |
|                             |               |                           |                   | Gross.     | Net.    |             |                             |
| British.....                | 16            | 35,881                    | 44,685            | 61,502     | 36,818  | \$42,847.82 | 40,554                      |
| Chilean.....                | 2             | 3,260                     | 5,645             | 6,367      | 3,888   | 4,075.00    | 883                         |
| Danish.....                 | 2             | 1,828                     | 2,238             | 2,991      | 1,852   | 1,611.36    |                             |
| Dutch.....                  | 1             | 4,085                     | 4,393             | 4,368      | 2,726   | 5,106.25    | 6,815                       |
| French.....                 | 1             | 3,566                     | 4,081             | 5,681      | 3,600   | 4,457.50    | 6,127                       |
| German.....                 | 1             | 2,531                     | 3,374             | 4,174      | 2,584   | 3,163.75    | 5,900                       |
| Italian.....                | 1             | 3,097                     | 3,599             | 5,376      | 3,082   | 3,871.25    | 4,630                       |
| Japanese.....               | 1             | 5,513                     | 6,385             | 9,049      | 6,502   | 4,597.20    |                             |
| Norwegian.....              | 2             | 5,273                     | 6,050             | 8,428      | 5,313   | 4,719.22    | 1,212                       |
| Panamanian.....             | 1             | 69                        | 69                | 123        | 72      | 51.75       |                             |
| Peruvian.....               | 2             | 2,710                     | 5,337             | 9,147      | 4,763   | 3,387.50    | 4,119                       |
| United States.....          | 13            | 29,469                    | 36,620            | 46,657     | 29,254  | 33,289.48   | 26,275                      |
| Totals, January, 1922.....  | 43            | 97,282                    | 122,476           | 163,863    | 100,454 | 111,178.08  | 96,515                      |
| Totals, December, 1921..... | 54            | 148,770                   | 182,195           | 240,108    | 151,148 | 169,551.45  | 154,087                     |
| Totals, January, 1921.....  | 87            | 225,140                   | 275,457           | 357,515    | 224,698 |             | 270,263                     |

## CLASSIFICATION OF COMMERCIAL TRAFFIC.

A statement of this month's commercial traffic, classified by nationality of vessels, is shown in the following tabulations:

| Nationality.              | No.<br>of<br>ships. | Tonnage.                         |                         |             |         | Tolls.       | Tons<br>of cargo. |
|---------------------------|---------------------|----------------------------------|-------------------------|-------------|---------|--------------|-------------------|
|                           |                     | United<br>States.<br>equivalent. | Panama<br>Canal<br>net. | Registered. |         |              |                   |
|                           |                     |                                  |                         | Gross.      | Net.    |              |                   |
| From Atlantic to Pacific. |                     |                                  |                         |             |         |              |                   |
| British.....              | 50                  | 166,297                          | 205,602                 | 260,784     | 166,311 | \$204,874.72 | 191,249           |
| Chilean.....              | 3                   | 4,703                            | 7,152                   | 8,883       | 5,331   | 5,878.75     | 3,750             |
| Danish.....               | 2                   | 3,388                            | 3,469                   | 4,261       | 3,499   | 4,076.40     | 4,800             |
| Dutch.....                | 3                   | 9,945                            | 13,796                  | 15,772      | 9,954   | 12,431.25    | 11,482            |
| French.....               | 2                   | 8,771                            | 8,924                   | 10,295      | 6,436   | 10,708.80    | 975               |

| Nationality.                    | No. of ships. | Tonnage.                  |                   |            |         | Tolls.     | Tons of cargo. |
|---------------------------------|---------------|---------------------------|-------------------|------------|---------|------------|----------------|
|                                 |               | United States equivalent. | Panama Canal net. | Registered |         |            |                |
|                                 |               |                           |                   | Gross.     | Net.    |            |                |
| From Atlantic to Pacific—Contd. |               |                           |                   |            |         |            |                |
| German                          | 2             | 4,764                     | 6,489             | 7,856      | 4,778   | \$5,955 00 | 3,946          |
| Italian                         | 2             | 5,822                     | 7,299             | 10,044     | 5,836   | 7,277 50   | 1,273          |
| Japanese                        | 7             | 29,633                    | 32,302            | 43,523     | 28,708  | 36,604 75  | 46,694         |
| Norwegian                       | 4             | 11,353                    | 13,397            | 17,120     | 10,720  | 14,079 00  | 20,366         |
| Peruvian                        | 2             | 2,710                     | 5,337             | 9,147      | 4,763   | 3,387 50   | 480            |
| Swedish                         | 1             | 1,091                     | 1,227             | 1,825      | 1,282   | 1,363 75   | 1,943          |
| United States                   | 47            | 168,050                   | 208,770           | 256,861    | 172,801 | 209,619 20 | 206,633        |
| Totals                          | 125           | 416,527                   | 513,764           | 646,371    | 420,419 | 516,256 62 | 493,591        |
| From Pacific to Atlantic.       |               |                           |                   |            |         |            |                |
| British                         | 25            | 70,052                    | 85,100            | 113,535    | 69,206  | 87,497 92  | 86,044         |
| Chilean                         | 2             | 3,260                     | 5,645             | 6,367      | 3,888   | 4,075 00   | 883            |
| Danish                          | 3             | 3,582                     | 4,404             | 5,916      | 3,600   | 3,803 86   | 2,218          |
| Dutch                           | 2             | 8,948                     | 10,459            | 12,023     | 7,525   | 11,185 00  | 13,191         |
| French                          | 1             | 3,566                     | 4,081             | 5,681      | 3,600   | 4,457 50   | 6,127          |
| German                          | 1             | 2,531                     | 3,374             | 4,174      | 2,584   | 3,163 75   | 5,900          |
| Italian                         | 1             | 3,097                     | 3,599             | 5,376      | 3,082   | 3,871 25   | 4,630          |
| Japanese                        | 6             | 27,419                    | 30,016            | 40,145     | 27,897  | 31,649 90  | 35,735         |
| Norwegian                       | 3             | 9,691                     | 11,093            | 15,415     | 9,735   | 8,350 18   | 1,211          |
| Panamanian                      | 1             | 69                        | 69                | 123        | 72      | 51 75      |                |
| Peruvian                        | 2             | 2,710                     | 5,337             | 9,147      | 4,763   | 3,387 50   | 4,119          |
| United States                   | 38            | 137,583                   | 169,575           | 205,567    | 135,277 | 170,017 32 | 153,649        |
| Totals                          | 85            | 272,508                   | 332,752           | 423,469    | 271,229 | 331,510 93 | 313,707        |
| Combined traffic both ways.     |               |                           |                   |            |         |            |                |
| British                         | 75            | 236,349                   | 290,702           | 374,319    | 235,517 | 292,372 64 | 277,293        |
| Chilean                         | 5             | 7,963                     | 12,797            | 15,250     | 9,219   | 9,953 75   | 4,633          |
| Danish                          | 5             | 6,970                     | 7,873             | 10,177     | 7,099   | 7,880 26   | 7,018          |
| Dutch                           | 5             | 18,893                    | 24,255            | 27,795     | 17,479  | 23,616 25  | 24,673         |
| French                          | 3             | 12,337                    | 13,005            | 15,976     | 10,036  | 15,160 30  | 7,102          |
| German                          | 3             | 7,295                     | 9,863             | 12,030     | 7,362   | 9,118 75   | 9,846          |
| Italian                         | 3             | 8,919                     | 10,898            | 15,420     | 8,918   | 11,148 75  | 5,903          |
| Japanese                        | 13            | 57,052                    | 62,318            | 83,668     | 56,605  | 68,254 65  | 82,429         |
| Norwegian                       | 7             | 21,044                    | 24,490            | 32,535     | 20,455  | 22,429 18  | 21,577         |
| Panamanian                      | 1             | 69                        | 69                | 123        | 72      | 51 75      |                |
| Peruvian                        | 4             | 5,420                     | 10,674            | 18,294     | 9,526   | 6,775 00   | 4,599          |
| Swedish                         | 1             | 1,091                     | 1,227             | 1,825      | 1,282   | 1,363 75   | 1,943          |
| United States                   | 85            | 305,633                   | 378,345           | 462,428    | 308,078 | 379,636 52 | 360,282        |
| Totals                          | 210           | 689,035                   | 846,516           | 1,069,840  | 691,648 | 847,767 55 | 807,298        |

A further classification of the commercial traffic is shown below:

|                         | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|-------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                         | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels: |                      |                           |              |                      |                           |              |
| Laden                   | 118                  | 498,648                   | \$503,073.10 | 76                   | 303,614                   | \$308,471.00 |
| Ballast                 | 6                    | 15,116                    | 10,883.52    | 8                    | 29,138                    | 20,981.43    |
| Cruisers                | 1                    | ( <sup>1</sup> )          | 2,300.00     | 1                    | ( <sup>1</sup> )          | 2,058.50     |
| Totals                  | 125                  | 513,764                   | 516,256.62   | 85                   | 332,752                   | 331,510.93   |
| Steamships:             |                      |                           |              |                      |                           |              |
| Motor ships             | 117                  | 500,929                   | 500,559.52   | 75                   | 314,351                   | 311,643.66   |
| Motor schooners         | 2                    | 7,311                     | 6,790.00     | 3                    | 11,766                    | 12,248.75    |
| Auxiliary schooners     | 2                    | 144                       | 157.50       | 3                    | 213                       | 209.25       |
| Auxiliary barks         | 2                    | 2,091                     | 2,502.80     |                      |                           |              |
| Tanker                  | 1                    | 3,289                     | 3,946.80     | 2                    | 1,381                     | 1,721.25     |
| Cruisers                | 1                    | ( <sup>1</sup> )          | 2,300.00     | 1                    | 5,041                     | 3,629.52     |
| Totals                  | 125                  | 513,764                   | 516,256.62   | 85                   | 332,752                   | 331,510.93   |

<sup>1</sup> Displacement tonnage, 4,600.

<sup>2</sup> Displacement tonnage, 4,117.



## CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Canal free of tolls. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated. This statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these are not included in the commercial traffic:

|                                     | Atlantic to Pacific. |                           |             | Pacific to Atlantic. |                           |            |
|-------------------------------------|----------------------|---------------------------|-------------|----------------------|---------------------------|------------|
|                                     | No. of ships.        | Panama Canal net tonnage. | Tolls.      | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
| United States naval vessels:        |                      |                           |             |                      |                           |            |
| Colliers .....                      | 2                    | 38,300                    | \$19,150 00 |                      |                           |            |
| Cruiser .....                       | 1                    | 3,200                     | 1,600 00    | 1                    | 3,200                     | \$1,600 00 |
| Gunboat .....                       | 1                    | 1,443                     | 721 50      | 1                    | 1,575                     | 787 50     |
| Transport .....                     | 1                    | 5,212                     | 6,254 40    |                      |                           |            |
| Tugs .....                          | 4                    | 3,500                     | 1,750 00    | 3                    | 2,750                     | 1,375 00   |
| Patrol yacht .....                  |                      |                           |             | 1                    | 2,600                     | 1,300 00   |
| Repair ship .....                   |                      |                           |             | 1                    | 3,380                     | 1,690 00   |
| United States Army vessels:         |                      |                           |             |                      |                           |            |
| Transports .....                    | 3                    | 12,678                    | 15,213 60   |                      |                           |            |
| Mine planter .....                  |                      |                           |             | 1                    | 46                        | 55 20      |
| Commercial vessel for repairs ..... | 1                    | 1,633                     | 1,959 60    |                      |                           |            |
| Completing passage .....            | 1                    | 2,143                     |             |                      |                           |            |
| Launches .....                      | 4                    | 14                        | 14 60       | 2                    | 5                         | 1 50       |

\* Indicates displacement tonnage.

## Cargo through the Canal free of tolls:

Atlantic to Pacific..... tons 33,495

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of January, 1922, are shown in the following tabulations:

|                                                                    |       | Cristobal. | Balboa. | Total.    |
|--------------------------------------------------------------------|-------|------------|---------|-----------|
| Local cargo arriving .....                                         | tons. | 32,291     | 11,183  | 43,474    |
| Local cargo shipped .....                                          | tons. | 1,996      | 355     | 2,351     |
| Transit cargo arriving .....                                       | tons. | 842,970    | 841,245 | 1,684,215 |
| Transit cargo clearing .....                                       | tons. | 836,614    | 841,750 | 1,678,364 |
| Cargo received for transshipment .....                             | tons. | 22,147     | 236     | 22,383    |
| Cargo transhipped .....                                            | tons. | 22,840     | 263     | 23,103    |
| Cargo handled by Receiving and Forwarding Agency, Panama Railroad: |       |            |         |           |
| Received .....                                                     | tons. | 33,887     | 3,270   | 37,157    |
| Dispatched .....                                                   | tons. | 20,985     | 661     | 21,646    |
| Rehandled .....                                                    | tons. | 1,084      |         | 1,084     |
| Stevedored .....                                                   | tons. | 24,277     | 1,361   | 25,638    |
| Vessels supplied with bunker coal:                                 |       |            |         |           |
| Commercial, other than Panama Railroad .....                       |       | 58         | 4       | 62        |
| Panama Railroad vessels .....                                      |       | 9          |         | 9         |
| United States Army vessels .....                                   |       | 3          | 2       | 5         |
| Total vessels supplied with bunker coal .....                      |       | 70         | 6       | 76        |
| Coal supplied to above vessels:                                    |       |            |         |           |
| Commercial, other than Panama Railroad .....                       | tons. | 16,268     | 222     | 16,490    |
| Panama Railroad vessels .....                                      | tons. | 1,415      |         | 1,415     |
| United States Army vessels .....                                   | tons. | 870        | 55      | 925       |
| Total coal supplied to vessels .....                               | tons. | 18,553     | 277     | 18,830    |
| Coal issues, miscellaneous:                                        |       |            |         |           |
| Panama Canal departments .....                                     | tons. | 457        | 298     | 755       |
| Panama Railroad, excepting vessels .....                           | tons. | 12         | 40      | 52        |
| United States Army, excepting vessels .....                        | tons. | 205        | 305     | 510       |
| Individuals and companies .....                                    | tons. | 269        | 78      | 347       |
| Total issues from Panama Canal deposits .....                      |       | 943        | 721     | 1,664     |
| January, 1922 .....                                                | tons. | 19,496     | 993     | 20,489    |
| December, 1921 .....                                               | tons. | 25,049     | 214     | 25,416    |
| January, 1921 .....                                                | tons. | 44,139     | 6,770   | 50,909    |

|                                                              |       | Cristobal. | Balboa. | Total.  |
|--------------------------------------------------------------|-------|------------|---------|---------|
| Coal on hand, February 1, 1922.....                          | tons. | 154,793    | 28,906  | 183,699 |
| Coal on hand, January 1, 1922.....                           | tons. | 164,663    | 29,899  | 194,562 |
| Coal received during January.....                            | tons. | 9,626      |         | 9,626   |
| <i>United States Navy coal account.</i>                      |       |            |         |         |
| Issued to United States Navy, including vessels.....         | tons. | 1,863      | 1,544   | 3,407   |
| Coal on hand, February 1, 1922.....                          | tons. | 61,949     | 17,014  | 78,963  |
| Coal on hand, January 1, 1922.....                           | tons. | 63,812     | 18,558  | 82,370  |
| Fuel oil issues:                                             |       |            |         |         |
| Panama Canal departments.....                                | bbls. | 4,845      | 13,460  | 18,305  |
| Army and Navy.....                                           | bbls. | 721        | 4,178   | 4,899   |
| Individuals and companies.....                               | bbls. |            | 25      | 25      |
| Total issues and sales.....                                  | bbls. | 5,566      | 17,663  | 23,229  |
| Fuel oil on hand, February 1, 1922.....                      | bbls. | 50,227     | 69,211  | 119,438 |
| Fuel oil on hand January 1, 1922.....                        | bbls. | 55,793     | 70,460  | 126,253 |
| Received during January, 1922.....                           | bbls. |            | 16,414  | 16,414  |
| Diesel oil issued during January, 1922.....                  | bbls. | 159        | 39      | 198     |
| Diesel oil on hand, February 1, 1922.....                    | bbls. | 50,797     | 915     | 51,712  |
| Diesel oil on hand, January 1, 1922.....                     | bbls. | 50,956     | 954     | 51,910  |
| Oil pumped for individuals and companies.....                | bbls. | 314,831    | 91,901  | 406,732 |
| Miscellaneous transfers.....                                 | bbls. | 5,642      | 497     | 6,139   |
| Total oil handled.....                                       | bbls. | 326,198    | 126,414 | 452,612 |
| Admeasurement certificates:                                  |       |            |         |         |
| United States equivalent issued or made.....                 |       | 27         | 7       | 34      |
| Measured for P. C. net tonnage.....                          |       | 12         | 8       | 20      |
| United States equivalent or P. C. net tonnage corrected..... |       | 25         | 25      | 50      |
| Services of harbor equipment:                                |       |            |         |         |
| Tugs, total operating hours.....                             |       | 416        | 254     | 670     |
| Launches, total operating hours.....                         |       | 1,085      | 969     | 2,054   |
| Vessels repaired at Panama Canal shops:                      |       |            |         |         |
| Commercial.....                                              |       | 28         | 8       | 36      |
| United States Government.....                                |       | 14         | 9       | 23      |
| Canal equipment.....                                         |       | 4          | 26      | 30      |
| Vessels dry-docked:                                          |       |            |         |         |
| Commercial.....                                              |       | 3          | 2       | 5       |
| United States Government.....                                |       | 1          |         | 1       |
| Canal equipment.....                                         |       | 2          | 9       | 11      |
| Clearances issued.....                                       |       | 125        | 137     | 262     |
| Bills of health issued.....                                  |       | 119        | 137     | 256     |

## ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal:

|                                                                | Port of Cristobal.  |                      |                    | Port of Balboa.     |                      |                    |
|----------------------------------------------------------------|---------------------|----------------------|--------------------|---------------------|----------------------|--------------------|
|                                                                | No.<br>of<br>ships. | Tonnage.             |                    | No.<br>of<br>ships. | Tonnage.             |                    |
|                                                                |                     | Registered<br>gross. | Registered<br>net. |                     | Registered<br>gross. | Registered<br>net. |
| Ships entering.                                                |                     |                      |                    |                     |                      |                    |
| All vessels, including those transiting the Canal.....         | 267                 | 1,397,928            | 891,614            | 224                 | 1,154,221            | 802,644            |
| Vessels entering port but not transiting the Canal.....        | 54                  | 268,243              | 161,752            | 7                   | 31,130               | 19,525             |
| Vessels transiting Canal and handling passengers or cargo..... | 48                  | 214,882              | 127,935            | 43                  | 163,431              | 93,505             |
| Ships clearing.                                                |                     |                      |                    |                     |                      |                    |
| All vessels, including those transiting the Canal.....         | 261                 | 1,375,558            | 979,108            | 223                 | 1,149,692            | 798,972            |
| Vessels entering port but not transiting the Canal.....        | 48                  | 246,360              | 150,612            | 7                   | 27,415               | 17,240             |
| Vessels transiting Canal and handling passengers or cargo..... | 49                  | 221,318              | 131,953            | 42                  | 162,977              | 92,948             |

## COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of January, 1922:

|                            | Ice.     | Groceries. | Cold storage. | Laundry.   | Miscellaneous. | Total.    |
|----------------------------|----------|------------|---------------|------------|----------------|-----------|
| Sales at Cristobal to—     |          |            |               |            |                |           |
| U. S. Government vessels.. | \$169.80 | \$675.12   | \$8.76        |            | \$99.99        | \$953.67  |
| Panama Railroad vessels..  | 61.20    | 3,649.12   | 702.92        |            | 300.33         | 4,713.57  |
| Other commercial vessels.. | 1,348.51 | 11,234.00  | 2,393.86      |            | 568.23         | 15,544.60 |
| Totals, January, 1922      | 1,579.51 | 15,558.24  | 3,105.54      |            | 968.55         | 21,211.84 |
| Totals, December, 1921     | 1,420.53 | 5,499.03   | 24,558.73     |            | 1,676.38       | 33,154.67 |
| Totals, January, 1921      | 2,820.35 | 13,953.64  | 62,166.27     | \$5,531.22 | 5,512.53       | 89,984.01 |
| Sales at Balboa to—        |          |            |               |            |                |           |
| U. S. Government vessels.. | 94.30    | 3,804.02   | 8,266.76      | 69.30      | 951.03         | 13,185.41 |
| Other commercial vessels.. | 380.10   | 278.14     | 4,053.31      |            | 373.59         | 5,085.14  |
| Totals, January, 1922      | 474.40   | 4,082.16   | 12,320.07     | 69.30      | 1,324.62       | 18,270.55 |
| Totals, December, 1921     | 349.74   | 3,815.83   | 15,697.89     | 2,319.83   | 367.94         | 20,321.40 |
| Totals, January, 1921      | 2,142.10 | 28,250.43  | 64,022.42     | 527.72     | 4,124.49       | 99,067.16 |

## MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of January, 1922:

|                                       | At Cristobal. |         |        | At Balboa.   |         |        |
|---------------------------------------|---------------|---------|--------|--------------|---------|--------|
|                                       | First class.  | Others. | Total. | First class. | Others. | Total. |
| Disembarking:                         |               |         |        |              |         |        |
| From Atlantic ports .....             | 970           | 716     | 1,686  | 7            | 6       | 13     |
| From Pacific ports .....              | 114           | 33      | 147    | 138          | 157     | 295    |
| Total disembarking.....               | 1,084         | 749     | 1,833  | 145          | 163     | 308    |
| Embarking:                            |               |         |        |              |         |        |
| For Atlantic ports.....               | 790           | 457     | 1,247  |              |         |        |
| For Pacific ports.....                | 224           | 69.     | 293    | 174          | 129     | 303    |
| Total embarking.....                  | 1,014         | 526     | 1,540  | 174          | 129     | 303    |
| Remaining on board vessels:           |               |         |        |              |         |        |
| From Atlantic to Pacific ports .....  | 870           | 1,519   | 2,389  | 1,001        | 1,579   | 2,580  |
| From Pacific to Atlantic ports .....  | 168           | 66      | 234    | 279          | 102     | 381    |
| From Atlantic to Atlantic ports ..... | 657           | 54      | 711    |              |         |        |
| From Pacific to Pacific ports .....   |               |         |        | 45           | 371     | 416    |
| Total remaining on board .....        | 1,695         | 1,639   | 3,334  | 1,325        | 2,052   | 3,377  |
| Total passengers arriving .....       | 2,779         | 2,388   | 5,167  | 1,479        | 2,206   | 3,685  |
| Total passengers departing .....      | 2,709         | 2,165   | 4,874  | 1,487        | 2,024   | 3,511  |

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks, and the consumption of water for lockages, for the month of January, 1922, as compared with that of the preceding month and of the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                                     | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|-------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                     | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                          | 84          | 117    | 201    | 8              | 10     | 18     | 219          |
| Pedro Miguel.....                   | 82          | 121    | 203    | 19             | 17     | 36     | 239          |
| Miraflores.....                     | 80          | 113    | 193    | 17             | 15     | 32     | 225          |
| Total lockages, January, 1922.....  | 246         | 351    | 597    | 44             | 42     | 86     | 683          |
| Total lockages, December, 1921..... | 303         | 378    | 681    | 51             | 41     | 92     | 773          |
| Total lockages, January, 1921.....  | 313         | 334    | 647    |                |        | 54     | 701          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                    | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                    | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                         | 89          | 130    | 219    | 22             | 27     | 49     | 268          |
| Pedro Miguel.....                  | 87          | 127    | 214    | 36             | 40     | 76     | 290          |
| Miraflores.....                    | 87          | 127    | 214    | 34             | 38     | 72     | 286          |
| Total vessels, January, 1922.....  | 263         | 384    | 647    | 92             | 105    | 197    | 844          |
| Total vessels, December, 1921..... | 318         | 410    | 728    | 140            | 111    | 251    | 979          |
| Total vessels, January, 1921.....  | 392         | 413    | 805    |                |        | 99     | 904          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                                  | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------------|--------|---------------|-------------|
| Army and Navy vessels.....       | 29     | 24            | 26          |
| Canal equipment.....             | 20     | 52            | 46          |
| Total noncommercial vessels..... | 49     | 76            | 72          |

The total consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                        | Gatun.        | Pedro Miguel. | Miraflores.   |
|----------------------------------------|---------------|---------------|---------------|
| Lockages.....                          | 841,680,000   | 861,000,000   | 692,060,000   |
| Leakage.....                           | 20,000,000    | 16,770,000    | 67,000,000    |
| Maintenance.....                       |               |               | 1,090,000     |
| Total consumption, January, 1922.....  | 861,680,000   | 877,770,000   | 760,150,000   |
| Total consumption, December, 1921..... | 984,180,000   | 969,810,000   | 884,760,000   |
| Total consumption, January, 1921.....  | 1,252,860,000 | 1,219,650,000 | 1,048,270,000 |

## METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorologic and hydrographic conditions over the Canal Zone and vicinity during the month of January, 1922, are shown in comparative form:

| Rainfall.                                        | January, 1922. | January, 1921. | January—Years of record. |         |         |
|--------------------------------------------------|----------------|----------------|--------------------------|---------|---------|
|                                                  | Maximum.       | Minimum.       | Mean.                    |         |         |
|                                                  | Inches.        | Inches.        | Inches.                  | Inches. | Inches. |
| Total for month:                                 |                |                |                          |         |         |
| Pacific Section.....                             | 2.46           | 0.54           | 3.13                     | 0.01    | 1.16    |
| Central Section.....                             | 5.01           | .75            | 5.01                     | .18     | 1.61    |
| Atlantic Section.....                            | 9.48           | 3.36           | 12.61                    | .62     | 4.16    |
| Maximum recorded on any one day.....             | 3.62           | 1.80           | 10.86                    |         |         |
| Gatun Lake watershed.....                        | 5.86           | 2.52           | 5.86                     | .52     | 2.10    |
| Chagres River watershed above Alhajuela.....     | 6.92           | 1.71           | 12.10                    | .38     | 3.19    |
| Maximum recorded for month at any one point..... | 11.26          | 6.74           | 22.32                    |         |         |
| Minimum recorded for month at any one point..... | 1.24           | .02            |                          |         |         |

<sup>1</sup> This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation; recorded at Porto Bello on December 28-29, 1909.



| Rainfall.                                       | January,<br>1922. | January,<br>1921. | January—Years of record. |                 |                 |
|-------------------------------------------------|-------------------|-------------------|--------------------------|-----------------|-----------------|
|                                                 |                   |                   | Maximum.                 | Minimum.        | Mean.           |
| <i>Hydrography.</i>                             | <i>C. f. s.</i>   | <i>C. f. s.</i>   | <i>C. f. s.</i>          | <i>C. f. s.</i> | <i>C. f. s.</i> |
| Discharge of Chagres River at Alhajuela.....    | 4,339             | 1,006             | 5,050                    | 682             | 2,067           |
| Maximum momentary discharge for month.....      | 29,100            | 2,475             | 170,000                  |                 |                 |
| Gatun Lake watershed total yield.....           | 9,298             | 2,093             | 9,298                    | 1,371           | 3,118           |
| Gatun Lake watershed net yield.....             | 8,641             | 1,216             | 8,641                    | 769             | 2,438           |
| Draft on Gatun Lake for lockages and power..... | 2,001             | 2,506             | 2,506                    | 987             | 1,826           |

\* This figure represents the maximum momentary discharge on record; occurred on December 26, 1909.

## SEISMOLOGY.

Seismic tremors were recorded on the 1st, 2d, 6th, 8th, 9th, 10th, 16th, and 31st. Those of the 1st, 2d, 8th, 9th, and 10th were all local shocks with epicenter probably to the southwest. The disturbance of the 6th was about 1,900 miles distant and gave indications of being to the northwest. The disturbance of the 16th was about 450 miles distant and, judging from the record on the seismograms, was extremely violent at the point of origin, which was probably in the Pacific Ocean. Slight tremors were recorded on the 31st from a distant disturbance that newspaper reports indicate was off the coast of Oregon and which was generally felt in the Pacific coast States. No damage to Canal works occurred during the month from any of the disturbances recorded.

## ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulations:

|                                                                               | January, 1922. | December, 1921. | January, 1921. |
|-------------------------------------------------------------------------------|----------------|-----------------|----------------|
| Gross output, KWH:                                                            |                |                 |                |
| Gatun hydroelectric station.....                                              | 4,811,800      | 4,942,900       | 6,285,900      |
| Miraflores steam plant.....                                                   | 280            | 300             | 57,340         |
| Combined gross output.....                                                    | 4,812,080      | 4,943,200       | 6,343,240      |
| Water consumption..... cubic feet.                                            | 3,657,240,000  | 3,779,696,146   | 4,383,193,500  |
| Oil consumption..... barrels.                                                 | 1,881          | 1,882           | 2,542          |
| Power distributed to consumers..... KWH.                                      | 4,122,618      | 4,235,893       | 5,348,844      |
| Loss of power in plant auxiliaries, transmission and transformation..... KWH. | 689,462        | 707,307         | 994,396        |
| Per cent of loss of power to gross output.....                                | 14.32          | 14.3            | 15.67          |

Miscellaneous electrical repairs and installations of electrical equipment were made on 31 vessels during the month. There were 375 work orders issued for work to be performed by the Electrical Division during the month, as compared with 358 for the month of December, 1921. Work covering the installation of switching and other electrical equipment for the proposed fifth generating unit at the hydroelectric station was completed during the month.

## SHOP, FOUNDRY, AND DRY DOCK WORK.

The output of the Mechanical Division in patterns and castings for January, 1922, as compared with the preceding month, was as follows:

|            | January, 1922. |           |         | December, 1921. |           |         |
|------------|----------------|-----------|---------|-----------------|-----------|---------|
|            | Patterns.      | Castings. | Pounds. | Patterns.       | Castings. | Pounds. |
| Iron.....  | 5              | 57        | 9,943   | 2               | 175       | 8,612   |
| Steel..... |                | 100       | 13,715  | 1               |           |         |
| Brass..... |                | 120       | 2,832   | 10              | 60        | 1,392   |

During the month miscellaneous repairs were made on 46 vessels at Cristobal, and 43 at the Balboa shops. Of the above vessels, 6 were placed in dry dock at Cristobal and 11 at Balboa.

Extensive heavy running repairs, docking, cleaning, and painting was performed on the steamship *Albertolite*.

The steamship *Delft* arrived in port at Balboa with the main injection valve broken. By utilizing the services of the diver and installing temporary patch over the strainer, repairs were made and the vessel was permitted to proceed on her way in about half the time anticipated by the ship's owners.

Dry-docking and overhaul of the Dredging Division fleet continued during the month.

The work of rebuilding and converting the tug *Mariner* into an oil burner was carried forward during the month and very satisfactory progress was made.

#### DREDGING DIVISION.

Cucaracha and Barge Repair slides have shown no perceptible movement during the month. West Culebra slide, during the first part of the month, continued to show a general movement, between stations 1774-00 and 1795-00, but shows no movement at this date. No inconvenience to Canal traffic was occasioned by reason of slides during the month.

The total excavation for the month of January, 1922, including earth and rock, was 285,750 cubic yards, as follows:

| Cubic yards. | Classified as— |         | Character of work. | Stations.                                                             | Equipment        |
|--------------|----------------|---------|--------------------|-----------------------------------------------------------------------|------------------|
|              | Earth.         | Rock.   |                    |                                                                       |                  |
| 89,600       | 23,300         | 66,300  | Maintenance.....   | <i>Gaillard Cut, West Culebra.</i><br>1774-00 to 1795-00 C. L. and W. | <i>Paraiso.</i>  |
| 23,900       | 9,300          | 14,600  | Maintenance.....   | <i>Gaillard Cut, East Culebra.</i><br>1774-00 to 1795-00 C. L. and E. | <i>Paraiso.</i>  |
| 1,750        | 850            | 900     | Maintenance.....   | <i>Gaillard Cut, East Barge Repair.</i><br>1754-00 to 1756-50 E.      | <i>Paraiso.</i>  |
| 19,000       | 7,000          | 12,000  | Maintenance.....   | <i>Pacific Entrance.</i><br>2160-00 to 2180-00 E.                     | <i>Cascadas.</i> |
| 3,000        | .....          | 3,000   | Construction.....  | <i>Pacific Entrance.</i><br>2160-00 to 2180-00 E.                     | <i>Cascadas.</i> |
| 131,000      | 131,000        | .....   | Maintenance.....   | <i>Pacific Entrance.</i><br>2251-60 to 2316-00 W.                     | <i>No. 84.</i>   |
| 17,500       | 6,500          | 11,000  | Maintenance.....   | <i>Balboa Inner Harbor.</i>                                           | <i>Cascadas.</i> |
| 285,750      | 177,950        | 107,800 |                    |                                                                       |                  |

The material excavated at the various stations was disposed of as follows:

|                                    | Cubic yards. |
|------------------------------------|--------------|
| Dumped north of Gamboa.....        | 115,250      |
| Dumped at sea.....                 | 39,500       |
| Dumped on flats west of Canal..... | 131,000      |
| Total.....                         | 285,750      |

#### MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form:

|                                    | January, 1922.  | December, 1921. | January, 1921.  |
|------------------------------------|-----------------|-----------------|-----------------|
|                                    | <i>Gallons.</i> | <i>Gallons.</i> | <i>Gallons.</i> |
| Pumping stations.....              | 663,058,500     | 663,173,000     | 863,708,750     |
| Filtration plants.....             | 392,676,000     | 391,375,000     | 538,978,000     |
| Water consumed by Panama City..... | 85,076,000      | 90,888,000      | 93,624,000      |
| Water consumed by Colon.....       | 52,321,500      | 42,337,000      | 59,478,550      |
| Sales of water to vessels.....     | 10,249,580      | 10,993,100      | 19,156,147      |

Construction work, as itemized below, was under progress during the month, with completion on December 31 and January 31, as shown:

|                                                                     | Per cent completed. |          |
|---------------------------------------------------------------------|---------------------|----------|
|                                                                     | Dec. 31.            | Jan. 31. |
| Fill, France Field.....                                             | 99 5                | 99 5     |
| Grading of Silver City, Mount Hope.....                             | 92                  | 95       |
| Construction of landing field at Naval Air Station, Coco Solo.....  | 2                   | 50       |
| Seawall and dry fill, Coco Solo.....                                | .....               | 12       |
| Construction of new concrete seawall, New Santo Tomas Hospital..... | 98                  | 98 5     |
| Extension of roads, New Santo Tomas Hospital.....                   | 60                  | 60       |
| Foundation of statue of Balboa.....                                 | 79                  | 79       |
| Extension of seawall, New Santo Tomas Hospital.....                 | 55                  | 75       |
| Installation of electric duct line, New Santo Tomas Hospital.....   | 60                  | 65       |

## OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                              | January 31, 1922. |        |           | Total occupants. |                 |                |
|------------------------------|-------------------|--------|-----------|------------------|-----------------|----------------|
|                              | Men.              | Women. | Children. | January, 1922.   | December, 1921. | January, 1921. |
| Americans .....              | 2,335             | 1,897  | 2,126     | 6,358            | 6,600           | 8,409          |
| Europeans .....              | 114               | 40     | 90        | 244              | 260             | 280            |
| West Indians .....           | 4,649             | 2,511  | 5,537     | 12,697           | 12,723          | 11,503         |
| Totals, January, 1922 .....  | 7,098             | 4,448  | 7,753     | 19,299           |                 |                |
| Totals, December, 1921 ..... | 7,372             | 4,529  | 7,682     |                  | 19,583          |                |
| Totals, January, 1921 .....  | 8,513             | 4,500  | 7,179     |                  |                 | 20,192         |

## WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of January 18, 1922, by departments, together with a comparison of the working force for the preceding month and that of January, 1921:

|                                       | Employees as of<br>January 18, 1922. |         | Total employees. |                 |                |
|---------------------------------------|--------------------------------------|---------|------------------|-----------------|----------------|
|                                       | Gold.                                | Silver. | January, 1922.   | December, 1921. | January, 1921. |
| Operation and Maintenance:            |                                      |         |                  |                 |                |
| Office .....                          | 28                                   | 43      | 71               | 64              | 75             |
| Electrical .....                      | 145                                  | 149     | 294              | 304             | 479            |
| Municipal Engineering .....           | 79                                   | 534     | 613              | 557             | 1,014          |
| Lock Operation .....                  | 190                                  | 663     | 853              | 877             | 787            |
| Dredging .....                        | 135                                  | 630     | 765              | 781             | 1,338          |
| Mechanical .....                      | 370                                  | 595     | 965              | 995             | 2,722          |
| Marine .....                          | 160                                  | 338     | 498              | 523             | 760            |
| Fortifications .....                  | 42                                   | 248     | 290              | 240             | 473            |
| Totals .....                          | 1,149                                | 3,200   | 4,349            | 4,341           | 7,648          |
| Supply Department:                    |                                      |         |                  |                 |                |
| Transportation .....                  | 37                                   | 146     | 183              |                 |                |
| Quartermaster .....                   | 132                                  | 821     | 953              | 1,243           | 2,447          |
| Subsistence .....                     | 19                                   | 219     | 238              | 244             | 454            |
| Commissary .....                      | 175                                  | 864     | 1,039            | 1,088           | 1,754          |
| Cattle Industry—Plantations .....     | 12                                   | 348     | 360              | 179             | 436            |
| Hotel Washington .....                | 8                                    | 77      | 85               | 90              | 102            |
| Totals .....                          | 383                                  | 2,475   | 2,858            | 2,844           | 5,193          |
| Accounting Department .....           | 180                                  | 7       | 187              | 199             | 255            |
| Health Department .....               | 217                                  | 732     | 949              | 949             | 1,125          |
| Executive Department .....            | 492                                  | 244     | 736              | 756             | 823            |
| Totals .....                          | 889                                  | 983     | 1,872            | 1,904           | 2,203          |
| Panama Railroad:                      |                                      |         |                  |                 |                |
| Superintendent .....                  | 47                                   | 247     | 294              | 285             | 586            |
| Transportation .....                  | 73                                   | 109     | 182              | 179             | 284            |
| Receiving and Forwarding Agency ..... | 61                                   | 859     | 920              | 855             | 1,523          |
| Coaling stations .....                | 89                                   | 450     | 539              | 510             | 1,532          |
| Totals .....                          | 270                                  | 1,665   | 1,935            | 1,838           | 3,925          |
| Grand totals, January, 1922 .....     | 2,691                                | 8,323   | 11,014           |                 |                |
| Grand totals, December, 1921 .....    | 2,759                                | 8,168   |                  | 10,927          |                |
| Grand totals, January, 1921 .....     | 4,145                                | 14,824  |                  |                 | 18,969         |

\* Includes 592 employees of former Building Division.

## SCHOOLS.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone for the month of January, 1922:

|                                      | White.  | Colored. | Total.  |
|--------------------------------------|---------|----------|---------|
| Gross enrollment.....                | 1,936   | 1,661    | 3,597   |
| Net enrollment.....                  | 1,826   | 1,618    | 3,444   |
| Average daily attendance.....        | 1,570.6 | 1,294.2  | 2,864.8 |
| Pupils neither absent nor tardy..... | 1,017   | 681      | 1,698   |
| Number of cases of tardiness.....    | 261     | 51       | 312     |
| Number of teachers.....              | 77      | 32       | 109*    |

## VITAL STATISTICS.

A total of 190 deaths occurred during the month of January, 1922, among the population of the Canal Zone, and the cities of Panama and Colon, which is equivalent to an annual death rate of 18.35 per 1,000. The 3 leading causes of death were tuberculosis, pneumonia, and diarrhea and enteritis; these 3 diseases caused 43 per cent of all deaths from disease.

There were 2 deaths from malaria, 1 from dysentery, and 1 from meningitis. Of the total deaths, 67, or 35 per cent, occurred among children under 5 years of age. There were 14 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 319 live births reported during the month, and 20 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 32.74 per thousand population. Deaths among children under 1 year of age numbered 41, giving an infant mortality rate, based on the number of births reported for January, of 128.53 per 1,000 live births. One hundred and twelve cases of malaria were reported during the month, of which 12 were employees and 100 were nonemployees. These malaria cases originated as follows: Panama, 8; in Colon, 4; in the Canal Zone, 69; and outside of the Canal Zone, 31.

Among other diseases reported during the month were 17 cases of measles, 12 of mumps, 3 of scarlet fever, 1 of typhoid fever, 15 of pneumonia, 5 of diphtheria, and 3 of dysentery.

## RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month of January, 1922, sales to steamships from storehouses, and cash sales from stock, are shown below in comparative form:

|                                                                          | January,<br>1922. | December,<br>1921. | January,<br>1921. |
|--------------------------------------------------------------------------|-------------------|--------------------|-------------------|
| Materials received on United States requisitions, chargeable as follows: |                   |                    |                   |
| Operation and Maintenance.....                                           | \$76,817.53       | \$111,827.15       | \$959,774.78      |
| Construction and equipment.....                                          |                   | 787.00             | 15,677.89         |
| Miscellaneous.....                                                       | 861.65            | 4,925.88           | 19,627.67         |
| Totals.....                                                              | 77,679.18         | 117,540.03         | 988,080.34        |
| Cash sales on the Isthmus:                                               |                   |                    |                   |
| Stock.....                                                               | 23,094.88         | 26,723.27          | 56,469.14         |
| Fuel oil (including sales to ships).....                                 | 7,541.19          | 25.97              | 38,985.87         |
| Scrap.....                                                               | 173.77            | 923.41             | 464.68            |
| Obsolete and second hand material.....                                   | 5,265.23          | 2,857.30           | 3,159.75          |
| Totals.....                                                              | 36,075.07         | 30,534.95          | 99,079.44         |
| Sales to steamships from storehouses:                                    |                   |                    |                   |
| Miscellaneous stock items.....                                           | 23,094.88         | 6,094.19           | 36,846.06         |
| Fuel oil.....                                                            | 7,541.19          | 25.97              | 17,875.15         |
| Totals.....                                                              | 30,636.07         | 6,120.16           | 54,721.21         |

## FINANCIAL RECEIPTS AND EXPENDITURES.

|                                                                     | January,<br>1922. | December,<br>1921. | January,<br>1921. |
|---------------------------------------------------------------------|-------------------|--------------------|-------------------|
| Cash balance available for expenditure in Canal appropriations..... | \$11,964,761.27   | \$11,866,501.01    | \$13,424,255.71   |
| Payments made from appropriations:                                  |                   |                    |                   |
| By Paymaster on the Isthmus.....                                    | 945,193.78        | 955,330.79         | 1,678,098.54      |
| By Disbursing Clerk, Washington.....                                | 71,160.53         | 171,583.21         | 1,103,379.34      |
| To Panama Railroad (for commissary books).....                      | 215,909.98        | 187,222.98         | 403,983.27        |



## FINANCIAL RECEIPTS AND EXPENDITURES—continued.

|                                                                                          | January,<br>1922. | December,<br>1921. | January,<br>1921. |
|------------------------------------------------------------------------------------------|-------------------|--------------------|-------------------|
| Collections on the Isthmus:                                                              |                   |                    |                   |
| Repaid to appropriations.....                                                            | \$594,956.23      | \$535,261.14       | \$1,250,116.95    |
| Commissary and other trust funds.....                                                    | 218,612.32        | 188,742.61         | 406,265.88        |
| Tolls.....                                                                               | 847,783.65        | 1,003,604.42       | 1,094,327.76      |
| Sales of water.....                                                                      | 29,337.40         |                    | 16,160.95         |
| Postal receipts.....                                                                     | 10,782.65         | 13,905.80          | 13,080.69         |
| Licenses, taxes, court fees, etc.....                                                    | 6,348.76          | 8,894.07           | 9,972.26          |
| Total collections on Isthmus.....                                                        | 1,707,821.01      | 1,750,408.04       | 2,789,924.49      |
| Collections by Disbursing Clerk, Washington, D. C.....                                   | 6,276.88          | 13,941.69          | 248,636.05        |
| Deposits made with assistant treasurer, United States.....                               | 48,800.00         | 64,750.00          | 59,800.00         |
| Canal Zone and miscellaneous funds:                                                      |                   |                    |                   |
| Receipts:                                                                                |                   |                    |                   |
| Money order funds.....                                                                   | 110,781.34        | 114,179.68         | 197,044.93        |
| Clubhouse funds.....                                                                     | 35,270.56         | 31,026.27          | 46,826.29         |
| Trust funds.....                                                                         | 1,024.26          | 68.88              | 802.63            |
| Interest.....                                                                            | 2,900.22          | 1,348.08           | 2,545.66          |
| Total receipts.....                                                                      | 149,976.38        | 146,622.91         | 247,219.51        |
| Disbursements:                                                                           |                   |                    |                   |
| Money order funds.....                                                                   | 157,578.90        | 81,750.00          | 4,300.00          |
| Clubhouse funds.....                                                                     | 31,690.03         | 28,069.94          | 48,139.40         |
| Trust funds.....                                                                         | 738.78            | 592.54             | 1,503.51          |
| Interest.....                                                                            | 516.77            | 603.51             | 420.41            |
| Total disbursements.....                                                                 | 190,524.48        | 111,015.99         | 54,363.32         |
| Pay roll on the Isthmus:                                                                 |                   |                    |                   |
| Maintenance and operation.....                                                           | 661,097.02        | 635,536.50         | 1,148,776.94      |
| Sanitation.....                                                                          | 72,390.29         | 70,722.13          | 85,010.51         |
| Civil government.....                                                                    | 67,916.07         | 67,752.91          | 66,097.89         |
| Totals.....                                                                              | 801,403.38        | 774,011.54         | 1,299,885.34      |
| Requisitions for purchases in the United States.....                                     | 221,693.59        | 42,052.73          | 300,061.45        |
| Sales of commissary supplies:                                                            |                   |                    |                   |
| To The Panama Canal.....                                                                 | 79,773.30         | 96,423.00          | 136,986.97        |
| To steamships, other than those of the United States Government and Panama Railroad..... | 21,864.69         | 32,754.95          | 100,801.72        |
| To the Panama Railroad, including steamships and Hotel Washington.....                   | 16,542.51         | 21,396.32          | 31,985.67         |
| To the United States Government including the Army and Navy.....                         | 87,052.09         | 100,030.12         | 177,730.37        |
| To individuals and companies through charge accounts.....                                | 24,555.36         | 31,011.02          | 24,340.51         |
| To individuals purchasing coupons.....                                                   | 291,689.06        | 403,042.47         | 491,495.85        |
| Totals.....                                                                              | 521,477.01        | 684,657.88         | 963,341.09        |

Respectfully,

M. L. WALKER,  
*Acting Governor.*

**Radio Pratique for Merchant Vessels.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., February 17, 1922.

## CIRCULAR NO. 626-10:

Hereafter, ships with clean bills of health, from noninfected ports, and without sickness on board, intending to transit the Canal without taking supplies or stores of any kind or landing passengers or cargo, may be granted pratique by radio under the following conditions:

(a) By making application therefor by radio between the hours of 8 a. m. and 4 p. m. Such application to state:

1. That the vessel has a clean bill of health and has no sickness on board.
2. Names of ports and places visited within the past 10 days.
3. That the vessel intends to transit the Canal without taking stores of any kind or landing passengers or cargo.

(b) Radio will be addressed to Chief Quarantine Officer through Port Captain.

(c) Pratique will not be considered as granted until reply has been received from Port Captain "Chief Quarantine Officer grants pratique."

M. L. WALKER,  
*Acting Governor.*

## Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, January, 1922.\*

| From—                             | NORTH AMERICA.             |                            |             |                          |              |                  |                          |                |          |          | EUROPE. |          |          |        |        |                      |                |                                 |  |  | Grand totals. | Per cent of total cargo. |
|-----------------------------------|----------------------------|----------------------------|-------------|--------------------------|--------------|------------------|--------------------------|----------------|----------|----------|---------|----------|----------|--------|--------|----------------------|----------------|---------------------------------|--|--|---------------|--------------------------|
|                                   | UNITED STATES.             |                            |             |                          |              | NORTH AMERICA.   |                          |                |          |          | EUROPE. |          |          |        |        |                      |                |                                 |  |  |               |                          |
|                                   | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports. | Total, United<br>States. | West Indies. | Cristobal, C. Z. | Total, North<br>America. | British Isles. | Belgium. | Denmark. | France. | Germany. | Holland. | Italy. | Spain. | Europe. <sup>2</sup> | Total, Europe. | East coast of<br>South America. |  |  |               |                          |
| <b>SOUTH AMERICA:</b>             |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |                      |                |                                 |  |  |               |                          |
| Chile.....                        | 14,233                     | 6,734                      | 5,882       | 26,849                   | .....        | 67               | 26,916                   | 14,328         | 4,076    | .....    | 6,468   | 15,738   | .....    | 4,079  | 55     | 1,122                | 45,866         | 72,782                          |  |  |               |                          |
| Colombia.....                     | 1,476                      | .....                      | .....       | 1,476                    | .....        | 853              | 2,329                    | 3              | .....    | .....    | 317     | 10       | 25       | 449    | 10     | 247                  | 1,328          | 2,297                           |  |  |               |                          |
| Ecuador.....                      | 1,903                      | .....                      | .....       | 1,903                    | .....        | 964              | 2,867                    | 3              | 277      | .....    | .....   | .....    | .....    | .....  | .....  | .....                | 10             | 1,3                             |  |  |               |                          |
| Peru.....                         | 2,334                      | .....                      | .....       | 2,334                    | .....        | 2,212            | 4,546                    | 5,558          | 800      | .....    | .....   | 619      | .....    | 47     | .....  | .....                | 7,025          | 11,571                          |  |  |               |                          |
| <b>Total, South America</b> ..... | 19,946                     | 6,734                      | 5,882       | 32,562                   | .....        | 4,096            | 36,658                   | 19,869         | 5,153    | .....    | 6,785   | 16,388   | 25       | 4,575  | 65     | 1,369                | 54,229         | 90,975                          |  |  |               |                          |
| <b>NORTH AMERICA:</b>             |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |                      |                |                                 |  |  |               |                          |
| West coast of United States       | 81,367                     | 425                        | 5,433       | 87,225                   | 885          | 655              | 88,765                   | 51,421         | 2,920    | .....    | 700     | 400      | 350      | .....  | 7,476  | 65,867               | 586            | 155,218                         |  |  |               |                          |
| West coast of Canada              | 2,554                      | .....                      | .....       | 2,554                    | .....        | .....            | 2,554                    | 7,994          | .....    | .....    | 170     | 400      | 150      | .....  | .....  | 8,714                | 11,268         | 3,6                             |  |  |               |                          |
| West coast of Central America     | 2,137                      | .....                      | 1,100       | 3,237                    | .....        | 860              | 4,097                    | .....          | .....    | .....    | .....   | .....    | .....    | .....  | 100    | .....                | 4,197          | 1,3                             |  |  |               |                          |
| <b>Total, North America</b> ..... | 86,058                     | 425                        | 6,533       | 93,016                   | 885          | 1,515            | 95,416                   | 62,415         | 2,920    | .....    | 870     | 400      | 500      | .....  | 7,576  | 74,681               | 586            | 170,683                         |  |  |               |                          |
| <b>ASIA:</b>                      |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |                      |                |                                 |  |  |               |                          |
| China.....                        | 4,281                      | .....                      | .....       | 4,281                    | .....        | .....            | 4,281                    | .....          | .....    | .....    | .....   | .....    | .....    | .....  | .....  | .....                | .....          | 4,281                           |  |  |               |                          |
| Japan.....                        | 6,602                      | .....                      | .....       | 6,602                    | 1,400        | .....            | 8,002                    | .....          | .....    | .....    | .....   | .....    | .....    | .....  | .....  | .....                | .....          | 8,282                           |  |  |               |                          |
| Philippines.....                  | 1,332                      | .....                      | .....       | 1,332                    | .....        | .....            | 1,332                    | .....          | .....    | .....    | .....   | .....    | .....    | .....  | .....  | .....                | .....          | 1,332                           |  |  |               |                          |
| Far East <sup>2</sup> .....       | 1,300                      | .....                      | .....       | 1,300                    | .....        | .....            | 1,300                    | .....          | .....    | .....    | .....   | .....    | .....    | .....  | .....  | .....                | .....          | 1,300                           |  |  |               |                          |
| <b>Total, Asia</b> .....          | 13,515                     | .....                      | .....       | 13,515                   | 1,400        | .....            | 14,915                   | .....          | .....    | .....    | .....   | .....    | .....    | .....  | .....  | .....                | .....          | 14,915                          |  |  |               |                          |
| <b>AUSTRALASIA:</b>               |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |                      |                |                                 |  |  |               |                          |
| Australia.....                    | 8,800                      | .....                      | .....       | 8,800                    | .....        | .....            | 8,800                    | .....          | .....    | .....    | .....   | .....    | .....    | .....  | .....  | .....                | .....          | 8,800                           |  |  |               |                          |
| New Zealand.....                  | .....                      | .....                      | .....       | .....                    | .....        | .....            | .....                    | 11,261         | .....    | 6,800    | .....   | .....    | .....    | .....  | .....  | 11,261               | 11,261         | 3,8                             |  |  |               |                          |
| Australasia <sup>2</sup> .....    | .....                      | .....                      | .....       | .....                    | .....        | .....            | .....                    | 2,218          | .....    | .....    | .....   | .....    | .....    | .....  | .....  | 9,018                | 9,018          | 2,8                             |  |  |               |                          |
| <b>Total, Australasia</b> .....   | 8,800                      | .....                      | .....       | 8,800                    | .....        | .....            | 8,800                    | 13,479         | .....    | 6,800    | .....   | .....    | .....    | .....  | .....  | 20,279               | 29,079         | 9,0                             |  |  |               |                          |
| <b>Hawaii</b> .....               | 8,055                      | .....                      | .....       | 8,055                    | .....        | .....            | 8,055                    | .....          | .....    | .....    | .....   | .....    | .....    | .....  | .....  | .....                | 8,055          | 2,5                             |  |  |               |                          |
| <b>Grand totals</b> .....         | 136,374                    | 7,159                      | 12,415      | 155,948                  | 2,285        | 5,611            | 163,844                  | 95,763         | 8,073    | 6,800    | 7,655   | 16,788   | 525      | 4,575  | 65     | 8,945                | 149,189        | 674                             |  |  |               |                          |
| <b>Per cent of total cargo:</b>   |                            |                            |             |                          |              |                  |                          |                |          |          |         |          |          |        |        |                      |                |                                 |  |  |               |                          |
| January, 1922.....                | 43.4                       | 2.2                        | 4.2         | 49.8                     | 0.7          | 1.7              | 52.2                     | 30.6           | 2.6      | 2.2      | 2.5     | 5.3      | 0.2      | 1.4    | .....  | 2.8                  | 47.6           | 0.2                             |  |  |               |                          |
| December, 1921.....               | 32.3                       | 4.8                        | 2.0         | 39.1                     | 1.0          | 2.7              | 43.5                     | 27.1           | 0.9      | 0.8      | 4.6     | 1.6      | 2.0      | 4.1    | .....  | 12.3                 | 56.5           | .....                           |  |  |               |                          |
| January, 1921.....                | 23.9                       | 6.8                        | 2.5         | 33.2                     | 3.4          | 1.3              | 39.2                     | 33.8           | 0.4      | .....    | 5.2     | 5.7      | 2.6      | 3.6    | 1.5    | 4.2                  | 58.0           | 1.9                             |  |  |               |                          |

\* Figures represent tons of 2,240 pounds.

\* General cargo not routed so as to allow segregation between definite ports.

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, January, 1922.\*

| FROM—                        | SOUTH AMERICA. |           |          |        | NORTH AMERICA.       |                              |                       |                                |               |         | ASIA.                |        |         |              | AUSTRALASIA. |             |            |              | Grand totals. | Hawaii. | Per cent of total cargo. |
|------------------------------|----------------|-----------|----------|--------|----------------------|------------------------------|-----------------------|--------------------------------|---------------|---------|----------------------|--------|---------|--------------|--------------|-------------|------------|--------------|---------------|---------|--------------------------|
|                              | Chile.         | Colombia. | Ecuador. | Peru.  | Total South America. | West coast of United States. | West coast of Canada. | West coast of Central America. | Balboa, C. Z. | Mexico. | Total North America. | China. | Japan.  | Philippines. | Far East.    | Total Asia. | Australia. | New Zealand. |               |         |                          |
| UNITED STATES:               |                |           |          |        |                      |                              |                       |                                |               |         |                      |        |         |              |              |             |            |              |               |         |                          |
| North Atlantic ports         | 10,058         | 300       | 702      | 3,549  | 14,609               | 87,965                       | 400                   | 51                             | 17            |         | 88,433               | 17,883 | 52,780  | 336          |              | 70,999      | 8,401      | 10,000       |               | 18,401  |                          |
| South Atlantic ports         |                |           |          |        |                      | 1,063                        |                       |                                |               |         | 1,063                | 720    | 13,459  |              |              | 14,179      |            |              |               |         |                          |
| Gulf ports.                  | 1,716          |           |          |        | 1,716                | 24,103                       |                       |                                |               |         | 24,103               | 171    | 36,590  |              |              | 36,761      | 6,300      | 4,625        |               | 10,925  |                          |
| Total, United States         | 11,774         | 300       | 702      | 3,549  | 16,325               | 113,131                      | 400                   | 51                             | 17            |         | 113,599              | 18,774 | 102,829 | 336          |              | 121,939     | 14,701     | 14,625       |               | 29,326  |                          |
| East coast of Mexico.        | 37,152         |           |          |        | 37,152               |                              | 15,000                |                                | 2,523         |         | 17,523               |        |         |              |              |             |            |              |               |         |                          |
| Cristobal, C. Z.             | 1,005          | 417       | 506      | 707    | 2,635                | 369                          | 4,307                 |                                | 8,000         | 700     | 6,160                |        |         |              |              |             |            |              | 61            |         |                          |
| West Indies.                 |                |           |          |        |                      |                              | 4,200                 |                                |               |         | 12,200               | 5,100  | 12,944  |              | 7,271        | 25,315      |            |              |               |         |                          |
| East coast of Canada         |                |           |          |        |                      |                              |                       |                                |               |         |                      |        |         |              |              |             | 1,783      |              |               | 1,783   |                          |
| Total North America          | 49,931         | 717       | 1,208    | 4,256  | 56,112               | 113,500                      | 19,600                | 4,358                          | 10,540        | 700     | 148,608              | 23,874 | 115,773 | 336          | 7,271        | 147,254     | 16,484     | 14,625       | 61            | 31,170  |                          |
| Europe:                      |                |           |          |        |                      |                              |                       |                                |               |         |                      |        |         |              |              |             |            |              |               |         |                          |
| Belgium.                     | 545            |           | 97       | 25     | 667                  | 8,660                        | 253                   |                                |               |         | 8,913                |        |         |              |              |             |            |              |               |         |                          |
| British Isles                | 6,785          |           | 230      | 2,840  | 9,855                | 6,951                        | 8,198                 |                                |               | 125     | 15,274               |        |         |              |              |             |            |              |               |         |                          |
| Denmark                      |                |           |          |        |                      | 4,800                        |                       |                                |               |         | 4,800                |        |         |              |              |             |            |              |               |         |                          |
| France                       |                |           |          |        |                      |                              |                       |                                |               |         |                      |        |         |              |              |             |            |              |               |         |                          |
| Germany                      | 1,994          |           | 71       | 39     | 110                  |                              |                       |                                |               |         |                      |        |         |              |              |             |            |              |               |         |                          |
| Holland.                     |                |           |          |        |                      |                              |                       | 746                            |               |         | 1,703                |        |         |              |              |             |            |              |               |         |                          |
| Italy                        | 325            |           |          |        | 685                  | 1,407                        | 115                   |                                |               |         | 1,522                |        |         |              |              |             |            |              |               |         |                          |
| Spain                        | 33             |           |          |        | 163                  |                              |                       |                                |               |         |                      |        |         |              |              |             |            |              |               |         |                          |
| Total Europe.                | 9,682          |           | 2,094    | 6,136  | 17,912               | 22,775                       | 8,566                 | 746                            |               | 125     | 32,212               |        |         |              |              |             |            |              |               |         |                          |
| East coast of South America. |                | 490       |          |        | 490                  |                              |                       |                                |               |         |                      |        |         |              |              |             |            |              |               |         |                          |
| Grand totals                 | 59,613         | 1,207     | 3,302    | 10,392 | 74,514               | 136,275                      | 28,166                | 5,104                          | 10,540        | 825     | 180,910              | 23,874 | 118,958 | 336          | 7,271        | 150,439     | 16,484     | 56,710       | 1,035         | 74,229  |                          |
| Per cent of total cargo:     |                |           |          |        |                      |                              |                       |                                |               |         |                      |        |         |              |              |             |            |              |               |         |                          |
| January, 1922.               | 12.0           | 0.2       | 0.7      | 2.1    | 15.0                 | 27.6                         | 5.7                   | 1.0                            | 2.1           | 0.2     | 36.6                 | 4.8    | 24.2    | 0.1          | 1.5          | 30.6        | 3.3        | 11.5         | 0.2           | 15.0    |                          |
| December, 1921.              | 5.2            | 0.3       | 0.5      | 2.3    | 12.1                 | 24.2                         | 1.4                   | 1.0                            | 5.0           | 0.6     | 32.2                 | 5.7    | 23.9    | 1.3          | 9.8          | 40.7        | 2.0        | 5.7          | 5.2           | 12.9    |                          |
| January, 1921.               | 27.6           | 0.4       | 0.8      | 3.5    | 35.2                 | 20.5                         | 0.9                   | 0.5                            | 5.8           | 2.2     | 29.9                 | 6.8    | 5.3     | 1.2          | 2.7          | 16.0        | 4.6        | 13.2         | 1.1           | 18.9    |                          |

\* General cargo not routed so as to allow segregation between definite ports.

\* Figures represent tons of 2,240 pounds.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, February 25, 1922.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.              | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.      | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.              |        | Panama Canal tonnage. |       |
|--------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------|---------|-------|-------------------|---------------|----------------|---------------------|--------|-----------------------|-------|
|                    | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |            |         |       |                   |               |                | Nature.             | Tons.  | Gross.                | Net.  |
| Nordamerika.       | 18               | 13    | 37             | 19    | 6                  | 21    | 19               | 16    | 20           | Danish     | 306     | 45    | 23                | Baltimore.    | Guayaquil.     | General, coke, etc. | 3,913  | 3,322                 | 2,485 |
| Jessie             | 18               | 21    | 13             | 19    | 7                  | 20    | 19               | 16    | 24           | British    | 370     | 52    | 27                | New York.     | Tsaurua.       | General.            | 6,700  | 5,915                 | 4,467 |
| Andrea F.          | 18               | 22    | 13             | 19    | 9                  | 07    | 19               | 17    | 21           | American   | 496     | 68    | 2                 | Philadelphia. | Los Angeles.   | General.            | 2,600  | 11,487                | 8,732 |
| Lukenbach.         | 19               | 17    | 34             | 20    | 6                  | 20    | 20               | 15    | 58           | American   | 434     | 57    | 22                | New York.     | Los Angeles.   | General.            | 3,007  | 7,983                 | 5,882 |
| Willso             | 18               | 16    | 40             | 20    | 6                  | 27    | 20               | 15    | 18           | British    | 31      | 25    | 6                 | Cristobal.    | Buenaventura.  | General.            | 10     | 132                   | 72    |
| Laura C. Hall.     | 19               | 18    | 40             | 20    | 8                  | 15    | 20               | 16    | 28           | British    | 450     | 58    | 25                | New York.     | Valparaiso.    | General.            | 2,285  | 9,171                 | 6,247 |
| Elro.              | 19               | 22    | 09             | 20    | 10                 | 55    | 20               | 18    | 08           | German     | 410     | 50    | 20                | Hamburg.      | Pto. Chicama.  | General.            | 1,805  | 6,052                 | 4,704 |
| N. Aris            | 20               | 10    | 22             | 20    | 13                 | 10    | 20               | 15    | 20           | British    | 365     | 52    | 24                | Liverpool.    | Osaka.         | Sugar.              | 7,400  | 5,650                 | 4,071 |
| Cape Ortelal.      | 16               | 9     | 12             | 21    | 10                 | 03    | 21               | 18    | 10           | British    | 400     | 49    | 24                | Manat.        | Hongkong.      | Sugar.              | 5,250  | 4,323                 | 3,209 |
| Danduth            | 21               | 9     | 15             | 21    | 12                 | 15    | 21               | 19    | 21           | American   | 307     | 42    | 2                 | Cristobal.    | Gatun Lake.    | General.            | 1,428  | 3,429                 | 2,206 |
| Patuxent           | 14               | 16    | 35             | 22    | 6                  | 14    | 22               | 13    | 21           | American   | 485     | 62    | 3                 | London.       | San Francisco. | General.            | 13,582 | 11,600                | 8,685 |
| Cuba               | 21               | 13    | 10             | 22    | 7                  | 20    | 22               | 14    | 18           | British    | 467     | 58    | 3                 | London.       | Auckland.      | General.            | 2,695  | 8,413                 | 5,071 |
| Remera             | 22               | 2     | 35             | 22    | 8                  | 20    | 22               | 15    | 18           | British    | 378     | 40    | 0                 | Cristobal.    | Vancouver.     | General.            | 711    | 4,552                 | 3,182 |
| Eastern Prince     | 18               | 20    | 00             | 22    | 9                  | 05    | 22               | 16    | 30           | American   | 190     | 29    | 1                 | Cristobal.    | Buenaventura.  | General.            | 20     | 737                   | 335   |
| Husco              | 19               | 18    | 00             | 22    | 9                  | 10    | 22               | 16    | 30           | British    | 231     | 35    | 2                 | New York.     | Guayaquil.     | General.            | 116    | 1,471                 | 999   |
| Balloa             | 22               | 7     | 12             | 22    | 11                 | 30    | 22               | 18    | 47           | Norwegian. | 391     | 5     | 50                | 0             | Valparaiso.    | General.            | 3,364  | 5,930                 | 4,395 |
| Elger              | 22               | 6     | 08             | 22    | 11                 | 40    | 22               | 18    | 54           | British    | 443     | 0     | 55                | 0             | Los Angeles.   | General.            | 5,315  | 7,940                 | 6,068 |
| City of Raur.      | 22               | 6     | 20             | 22    | 12                 | 21    | 22               | 20    | 02           | British    | 430     | 51    | 0                 | Newcastle.    | Auckland.      | Ballast.            | 6,077  | 4,845                 |       |
| Admiral Codrington | 22               | 17    | 05             | 23    | 6                  | 55    | 23               | 14    | 35           | British    | 411     | 55    | 0                 | Cardiff.      | Los Angeles.   | Steel products.     | 8,450  | 7,330                 | 5,241 |
| Mobile City        | 22               | 16    | 17             | 23    | 7                  | 25    | 23               | 15    | 23           | American   | 430     | 56    | 0                 | Baltimore.    | Moji.          | ( <sup>1</sup> )    | 9,170  | 7,445                 | 5,345 |
| Durban Maru.       | 22               | 19    | 55             | 23    | 7                  | 58    | 23               | 16    | 21           | Japanese   | 473     | 59    | 0                 | New York.     | Auckland.      | General.            | 4,590  | 9,944                 | 7,000 |
| Devon.             | 22               | 21    | 54             | 23    | 9                  | 17    | 23               | 18    | 53           | British    | 435     | 59    | 0                 | Boston.       | Seattle.       | General.            | 7,570  | 8,213                 | 6,266 |
| Wagley             | 23               | 16    | 53             | 23    | 9                  | 56    | 23               | 18    | 53           | American   | 187     | 35    | 0                 | Mobile.       | San Francisco. | Pig iron, rosin.    | 775    | 784                   | 471   |
| Wagley             | 21               | 16    | 29             | 23    | 10                 | 38    | 23               | 18    | 55           | American   | 469     | 56    | 0                 | Galveston.    | Los Angeles.   | General.            | 7,000  | 7,696                 | 5,669 |
| Polkman            | 21               | 12    | 15             | 24    | 6                  | 37    | 24               | 13    | 50           | British    | 419     | 57    | 0                 | Cristobal.    | Bahia.         | General.            | 8,048  | 9,160                 | 6,671 |
| S. C. 28           | 24               | 6     | 56             | 24    | 10                 | 43    | 24               | 18    | 26           | American   | 499     | 63    | 0                 | Baltimore.    | Manila.        | General oil.        | 12,821 | 9,507                 |       |
| Gardie Prince.     | 24               | 10    | 07             | 24    | 12                 | 00    | 24               | 19    | 10           | British    | 368     | 6     | 24                | Southampton.  | Wellington.    | General.            | 5,707  | 3,016                 |       |
| Gorinthe           | 24               | 17    | 13             | 25    | 9                  | 35    | 25               | 13    | 05           | American   | 370     | 53    | 0                 | New York.     | Los Angeles.   | General.            | 5,000  | 5,577                 | 4,225 |
| Norstar            | 24               | 17    | 13             | 25    | 9                  | 35    | 25               | 13    | 05           | American   | 400     | 52    | 0                 | Galveston.    | San Francisco. | Sulphur.            | 5,995  | 6,005                 | 4,416 |
| Minares            | 24               | 20    | 38             | 25    | 7                  | 30    | 25               | 13    | 25           | British    | 446     | 56    | 0                 | Barry.        | Wellington.    | Coal.               | 3,500  | 8,508                 | 6,179 |
| Frederica          | 25               | 6     | 28             | 25    | 8                  | 35    | 25               | 16    | 35           | British    | 446     | 56    | 0                 | New York.     | Los Angeles.   | General.            | 3,500  | 8,508                 | 6,179 |
| F. J. Lukenbach    | 25               | 3     | 55             | 25    | 9                  | 46    | 25               | 17    | 28           | American   | 446     | 56    | 0                 | New York.     | Los Angeles.   | General.            | 3,500  | 8,508                 | 6,179 |

\* Cotton, tin plate, steel plate, ammonia, lubricating oil, and general.

\* Steam schooner.

\* Tug, towing barges.

\* Motor schooner.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Willshire           | 18 | 18 | 20 | 19 | 7  | 05 | 19 | 14 | 40 | 19 | 17 | 05 | British  | Federal Steam Navigation Co.     | 526.4 | 61 | 4 | 25 | 0 | Sydney       | Southampton | Cold storage, etc. | 6,541 | 12,514 | 9,026 |
|---------------------|----|----|----|----|----|----|----|----|----|----|----|----|----------|----------------------------------|-------|----|---|----|---|--------------|-------------|--------------------|-------|--------|-------|
| Hawaiian            | 18 | 19 | 00 | 19 | 7  | 44 | 19 | 15 | 15 | 19 | 15 | 15 | American | American-Hawaiian Line           | 406.8 | 51 | 1 | 21 | 6 | Seattle      | Boston      | General            | 2,939 | 6,039  | 4,180 |
| Loonoo              | 18 | 17 | 10 | 19 | 8  | 45 | 19 | 16 | 25 | 19 | 17 | 11 | British  | C. T. Bowring & Co.              | 435.3 | 55 | 8 | 18 | 6 | Toconilla    | Tampico     | Ballast            | 7,496 | 5,311  | 4,381 |
| Honkai Hall         | 18 | 20 | 00 | 19 | 9  | 47 | 19 | 18 | 25 | 19 | 20 | 15 | American | United States Steel Products Co. | 400.8 | 51 | 5 | 24 | 6 | Vancouver    | London      | Nitrate            | 6,836 | 6,065  | 4,381 |
| Andalusia           | 19 | 6  | 30 | 19 | 10 | 36 | 19 | 19 | 45 | 19 | 20 | 15 | Swedish  | Svenska Lloyd                    | 236.1 | 37 | 6 | 19 | 0 | Talcahuano   | New Orleans | General            | 2,250 | 9,099  | 6,117 |
| Essequibo           | 19 | 5  | 45 | 19 | 11 | 00 | 19 | 18 | 50 | 20 | 9  | 05 | British  | Pacific Steam Navigation Co.     | 450.3 | 57 | 8 | 23 | 8 | Vancouver    | New York    | General            | 2,780 | 6,759  | 4,900 |
| West Isleta         | 19 | 6  | 10 | 19 | 11 | 43 | 19 | 19 | 55 | 20 | 19 | 55 | American | Nawako Line (S. B.)              | 400.8 | 54 | 2 | 19 | 8 | Buenaventura | Charleston  | General            | 1,027 | 737    | 335   |
| Barbacoa            | 19 | 8  | 40 | 19 | 11 | 53 | 19 | 20 | 35 | 22 | 9  | 10 | Peruvian | Colombian Maritime Co.           | 190.0 | 29 | 1 | 13 | 0 | Callao       | Cristobal   | General            | 1,465 | 4,803  | 2,951 |
| Umbraha             | 20 | 6  | 10 | 20 | 8  | 13 | 20 | 15 | 23 |    |    |    | British  | H. Hogarth & Sons                | 381.2 | 46 | 1 | 13 | 0 | Honolulu     | Denmark     | Phosphates         | 6,500 | 6,014  | 4,404 |
| Assoldo VI          | 19 | 20 | 00 | 20 | 8  | 18 | 20 | 16 | 40 | 20 | 17 | 58 | Italian  | National Navigation Co.          | 410.1 | 51 | 6 | 14 | 5 | Valparaiso   | Genoa       | General            | 1,069 | 5,453  | 3,526 |
| Edgar F. Luckenbach | 20 | 19 | 00 | 21 | 7  | 34 | 21 | 14 | 15 | 21 | 15 | 00 | American | Luckenbach Line                  | 425.0 | 57 | 3 | 26 | 0 | Portland     | New York    | General, wood      | 7,000 | 8,568  | 6,696 |
| Teatshney           | 21 | 6  | 30 | 21 | 10 | 53 | 21 | 17 | 45 | 21 | 20 | 05 | British  | Hain Steamship Co.               | 472.5 | 59 | 3 | 24 | 9 | Adelaide     | New York    | General, wool      | 9,200 | 8,710  | 6,216 |
| Bologna             | 21 | 8  | 30 | 21 | 10 | 04 | 21 | 17 | 39 | 26 | 6  | 11 | Italian  | La Veloce Line                   | 384.9 | 46 | 7 | 17 | 0 | Valparaiso   | Genoa       | General            | 41    | 5,531  | 3,773 |
| Advance             | 16 | 15 | 40 | 22 | 8  | 43 | 22 | 14 | 27 | 26 | 12 | 35 | American | Panama Railroad Steamship Line   | 295.1 | 38 | 4 | 16 | 1 | Balboa       | Cristobal   | Nitrate, general   | 6,100 | 5,723  | 4,183 |
| Harbin              | 21 | 18 | 14 | 22 | 6  | 43 | 22 | 15 | 30 | 22 | 15 | 30 | German   | German-Australian Line           | 403.0 | 52 | 0 | 24 | 0 | Guaymas      | Antwerp     | General            | 5,163 | 5,567  | 3,680 |
| Vermine             | 21 | 22 | 00 | 22 | 8  | 00 | 22 | 17 | 06 | 23 | 18 | 08 | French   | French Line                      | 258.1 | 49 | 0 | 24 | 0 | Talcahuano   | La Havre    | Coffee             | 1,235 | 1,589  | 1,018 |
| Cauca               | 23 | 0  | 15 | 23 | 7  | 25 | 23 | 13 | 56 |    |    |    | British  | Pacific Steam Navigation Co.     | 246.0 | 35 | 2 | 16 | 3 | Acajutla     | Cristobal   | Ballast            | 7,539 | 5,448  |       |
| Atlanta City        | 23 | 19 | 45 | 24 | 6  | 38 | 24 | 13 | 42 | 24 | 15 | 15 | American | United States Steel Products Co. | 424.2 | 56 | 2 | 18 | 6 | Honolulu     | Galveston   | General            | 4,200 | 4,165  | 3,066 |
| Munro               | 22 | 20 | 30 | 24 | 7  | 34 | 24 | 14 | 56 | 24 | 14 | 56 | American | Munro Steamship Co.              | 333.6 | 48 | 2 | 23 | 0 | Honolulu     | New York    | General            | 9,500 | 9,262  | 6,853 |
| Harry Luckenbach    | 24 | 5  | 00 | 24 | 8  | 46 | 24 | 16 | 30 | 24 | 16 | 30 | American | Luckenbach Line                  | 448.9 | 60 | 2 | 28 | 0 | Portland     | New York    | General            | 9,500 | 9,262  | 6,853 |
| Swiftlight          | 24 | 20 | 30 | 25 | 8  | 15 | 25 | 15 | 14 | 25 | 16 | 34 | American | Swifsure Oil Transport Co.       | 464.6 | 60 | 2 | 21 | 0 | Astoria      | Tampico     | Ballast            | 8,473 | 6,050  |       |
| Barma               | 25 | 3  | 30 | 25 | 9  | 00 | 25 | 16 | 27 |    |    |    | British  | Pacific Steam Navigation Co.     | 220.0 | 37 | 0 | 18 | 2 | Champerico   | London      | Coffee, balsam     | 748   | 1,634  | 871   |
| Panaman             | 25 | 6  | 00 | 25 | 9  | 04 | 25 | 17 | 30 | 26 | 4  | 55 | American | American-Hawaiian Line           | 407.7 | 53 | 7 | 27 | 0 | Seattle      | Liverpool   | General            | 7,500 | 7,098  | 5,028 |

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS.  |             |                                 |                         | *DEPARTURES.    |             |                                 |                                     |
|-------------|-------------|---------------------------------|-------------------------|-----------------|-------------|---------------------------------|-------------------------------------|
| Date.       | Vessel.     | Line.                           | From—                   | Date.           | Vessel.     | Line.                           | For—                                |
| Feb. 19     | Abangarez   | United Fruit Co.                | New Orleans via Habana. | Feb. 19         | Abangarez   | United Fruit Co.                | Port Limon via Bocas del Toro       |
| Feb. 20     | Parismina   | United Fruit Co.                | New Orleans.            |                 |             |                                 |                                     |
| Feb. 22     | Sivaola     | United Fruit Co.                | Colombian ports.        | Feb. 23         | Parismina   | United Fruit Co.                | New Orleans via Tela and Habana     |
| Feb. 22     | Santa Marta | United Fruit Co.                | New York via Kingston.  | Feb. 23         | Sivaola     | United Fruit Co.                | New York via Kingston               |
| Feb. 22     | St. Michel  | United States Army              | New York                | Feb. 23         | Abangarez   | United Fruit Co.                | New Orleans                         |
| Feb. 23     | Abangarez   | United Fruit Co.                | Bocas del Toro.         | Feb. 23         | Parismina   | Panama Railroad Steamship Line. | New York via Haiti                  |
| Feb. 24     | China       | United Fruit Co.                | New York via wayports.  | Feb. 24         | Santa Marta | United Fruit Co.                | New York via Colombia               |
| Feb. 24     | Venezuela   | Royal Netherlands W. I. Mail.   | Amsterdam via wayports. | Feb. 24         | Venezuela   | Royal Netherlands W. I. Mail.   | Port Limon.                         |
| Feb. 24     | Candeu      | United Fruit Co.                | Tampico.                | Feb. 25         | Ulla        | United Fruit Co.                | New York via Port Limon and Habana. |
| Feb. 25     | San Mateo   | United Fruit Co.                | Port Limon.             | Feb. 25         | San Mateo   | United Fruit Co.                | Boston via Kingston.                |
| *Transport. |             |                                 |                         | PORT OF BALBOA. |             |                                 |                                     |
| Feb. 20     | Depere      | General Steamship Corp. (S. B.) | Valparaiso.             | Feb. 19         | Saiyo Maru  | Toyo Kisen Kaisha               | Hongkong.                           |
|             |             |                                 |                         | Feb. 21         | Depere      | General Steamship Corp. (S. B.) | San Pedro.                          |

\*Other than ships passing through the Canal.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending February 25, 1922.

| Name of vessel.    | Line or charterer.                  | Arrived.         | Departed.        | Cargo—       |              |
|--------------------|-------------------------------------|------------------|------------------|--------------|--------------|
|                    |                                     |                  |                  | Discharged   | Laded.       |
|                    |                                     |                  |                  | <i>Tons.</i> | <i>Tons.</i> |
| Buenos Aires.....  | Spanish Line.....                   |                  | February 19..... |              | 330          |
| Alvarado.....      | Pacific Steam Navigation Co.....    |                  | February 19..... |              | 244          |
| Abangarez.....     | United Fruit Co.....                | February 19..... | February 19..... |              | 25           |
| Ebro.....          | Pacific Steam Navigation Co.....    | February 19..... | February 20..... | 201          | (*)          |
| Essequibo.....     | Pacific Steam Navigation Co.....    | February 19..... | February 20..... | 21           | (*)          |
| Laura C. Hall..... | Pacific Metals Corporation.....     |                  | February 20..... |              | 19           |
| Huasco.....        | Chilean Line.....                   |                  | February 22..... |              | 711          |
| Cuba.....          | Pacific Mail Steamship Co.....      |                  | February 22..... |              | 1,596        |
| Balboa.....        | Colombian Maritime Co.....          | February 19..... | February 22..... | 162          | 29           |
| Parismina.....     | United Fruit Co.....                | February 20..... | February 23..... | 546          | 60           |
| Urubamba.....      | Peruvian Line.....                  | February 20..... | February 23..... | 1,465        |              |
| Bologna.....       | Italian Line.....                   | February 21..... | February 23..... | 7            |              |
| Eiger.....         | Caribbean Steamship Co.....         | February 22..... | February 22..... | 24           | 7            |
| Junin.....         | Pacific Steam Navigation Co.....    | February 22..... | February 22..... | 16           | 32           |
| Colon.....         | Panama Railroad Steamship Line..... |                  | February 23..... |              | 2,351        |
| Virginie.....      | French Line.....                    | February 22..... | February 23..... | (*)          | 116          |
| Sixaloa.....       | United Fruit Co.....                | February 22..... | February 23..... | (*)          | 1            |
| Santa Marta.....   | United Fruit Co.....                | February 22..... | February 24..... | 216          | 87           |
| Cauca.....         | Pacific Steam Navigation Co.....    | February 23..... | February 23..... | 1,235        |              |
| Artigas.....       | N. American & Western S. S. Co..... | February 23..... | February 24..... | 1,272        | (*)          |
| Abangarez.....     | United Fruit Co.....                | February 23..... | February 23..... | 1            | 400          |
| Camden.....        | United Fruit Co.....                | February 24..... | February 23..... | 8,901        |              |
| Venezuela.....     | Royal Netherlands W. I. Mail.....   | February 24..... | February 25..... | 200          | 4            |
| Saint Andre.....   | French Line.....                    | February 24..... | February 24..... | 30           |              |
| Ulua.....          | United Fruit Co.....                | February 24..... | February 25..... | 359          | 131          |
| San Mateo.....     | United Fruit Co.....                | February 25..... | February 25..... | 21           |              |
| Ares.....          | Royal Netherlands W. I. Mail.....   | February 25..... | February 25..... | 380          |              |

\* No cargo discharged.

\* No cargo laded.

\* Packages.

\* Pounds.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending February 25, 1922.

| Name of vessel.    | Line or charterer.                    | Arrived.         | Departed.        | Cargo—       |              |
|--------------------|---------------------------------------|------------------|------------------|--------------|--------------|
|                    |                                       |                  |                  | Discharged   | Laded.       |
|                    |                                       |                  |                  | <i>Tons.</i> | <i>Tons.</i> |
| Buenos Aires.....  | Transatlantic Co.....                 | February 16..... | February 18..... | 2            |              |
| Laura C. Hall..... | Pacific Metals Transportation Co..... | February 20..... | February 20..... |              | 50           |
| Cuba.....          | Pacific Mail Steamship Co.....        | February 22..... | February 22..... |              | 7            |
| Politecian.....    | T. and B. Harrison.....               | February 24..... | February 24..... |              | 29           |
| Barima.....        | Pacific Steam Navigation Co.....      | February 25..... | February 25..... | 8            |              |

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended February 25:

Tug *Gorgona*, dock and undock; stage and clean; chip and paint bottom; draw tail shaft for examination; rewood stern tube bearing; examine and repair sea valves; renew sea valve strainers, where necessary; renew bad order zincs; overhaul blow-down line on ship's side; manufacture and install metallic packing on piston rod, circulating pump; repair internal feed pipe of forward boiler; electric weld cracks in blades of propeller; electric weld collars on staybolts in main boilers; furnish air for operating ship's auxiliaries; steamship *Advance*, dock and undock; stage and clean; paint bottom 1 coat of anticorrosive and 1 coat of antifouling; examine propeller; tighten 28 propeller blade nuts; re-cement, repack stern gland; renew gaskets; repack and renew 5 sea valves; manufacture 24  $\frac{5}{8}$ " x 3" studs; manufacture 2 glands for ice machine; drill out 2 broken plugs in oil system and install new plugs; manufacture 8 piston rings for ice machine; install 2 patches on bottom; renew 8 zinc plates; calk 16 feet of seams; cut out and redrive 25 rivets and electric weld 185 rivets.

### PREVIOUSLY REPORTED.

Barge *No. 135*, straighten coaming; tighten bad order rivets; drill barge *L-55*, remove from water and place on dock; remove copper sheathing in spots for examination of hull; tug *Mariner*, dock and undock; scale and paint bottom and convert

from coal burner to oil burner as per specifications; barge *No. 132*, dock and undock; scale and paint bottom and necessary repairs below the water line, on hull.

The following vessels were at the Cristobal shops for repairs during the week ended February 27:

Steamships *Parismina*, repair hole in shell plating; remetal and bore crosshead slipper for H. P. engine; *Advance*, weld mooring chock; roll tubes and calk stay-bolts, port boiler; *Virginie*, electric weld cracks in furnaces; furnish diver to remove cable from propeller; *Wellesley*, weld eyes on stack guys; weld cylinder head for pump; manufacture pipe blank; U. S. steamer *Nones*, dock and clean bottom; repair sheathing and calk hull; renew fender guard irons and stem band bolts; manufacture new rudder shoe and skag; alter shape of rudder; pull tail shaft for inspection; install spare propeller; remetal main engine brasses; true up rods; check alignment of engine and test out; repair reversing engine, steering engine, circulating pump, and main steam pipe; repair hot well; overhaul anchor windlass, etc.; steamships *Balboa*, manufacture 2 eccentric rods for dynamo engine; manufacture 1 set of steering chains; *Cauca*, manufacture piston rod, strainer tube, 4 valves, 4 springs, and reface 8 valves for refrigerator; manufacture 6 brass rings for Weir's pump, etc.; *Venezuela*, weld bake oven pipes; manufacture copper pipe for anchor windlass; repair armature, etc.; *Artigas*, *Santa Marta*, *St. Andre*, and launch *Cruces*, minor repairs.

### Hawaiian Sugar.

The *Shipping Register*, of San Francisco, quoting officials of the Matson Line, states that the entire Hawaiian sugar crop of 1922, estimated at 505,000 tons, will be brought to the mainland through the port of San Francisco. Heretofore a large part of the crop has always been shipped through the Panama Canal to refineries on the Atlantic seaboard. The change is ascribed to Cuban competition and to improved refining facilities on the Pacific coast.

The amount of Hawaiian sugar shipped through the Panama Canal during the calendar year 1921 was 115,571 tons. One cargo of 8,055 tons passed through in January, 1922.

### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective March 1, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.20 |
| Brass, sheet, average.....                                        | Lb.            | .31    |
| Bronze, Tobin, average.....                                       | Lb.            | .25    |
| Gasoline, motor grade.....                                        | Gal.           | .40    |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .175   |
| Oakum, Navy, unspun.....                                          | Lb.            | .175   |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Pbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .51    |
| Oil, burning.....                                                 | Gal.           | 1.06   |
| Oil, engine, gas, in barrels.....                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .675   |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | 1.04   |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .55    |
| Oil, kerosene, in drums.....                                      | Gal.           | .20    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .99    |
| Paint, lead, white, dry.....                                      | Lb.            | .14    |
| Paint, lead, white, in oil.....                                   | Lb.            | .09    |
| Paint, zinc, white, dry.....                                      | Lb.            | .20    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .20    |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .09    |
| Soda, ash.....                                                    | Lb.            | .035   |
| Waste, cotton, colored.....                                       | Lb.            | .175   |
| Waste, cotton, white.....                                         | Lb.            | .20    |



## Official Circular.

### Parlor Car Service Resumed.

PANAMA RAILROAD COMPANY,  
OFFICE OF MASTER OF TRANSPORTATION,  
BALBOA HEIGHTS, C. Z., February 24, 1922.

CIRCULAR No. 124:

To all concerned—Effective Wednesday, March 1, parlor cars will be placed back in regular service on trains Nos. 2 and 3, and 7 and 8.

W. F. FOSTER,  
*Master of Transportation.*

Approved:

S. W. HEALD,  
*Superintendent.*

### Current Net Prices on Coal, Fuel Oil, and Diesel Oil.

Coal is being supplied to steamships including warships of all nations delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa.

Special prices for coal in large quantities as specified below, taken from alongside Cristobal Coaling Plant by vessels transiting the Canal:

(a) To vessels taking 1,200 tons or over;

(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at \$10 per ton of 2,240 pounds.

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at \$10 per ton.

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 4 to Tariff No. 5 will apply. (\$15 at Cristobal, \$18 at Balboa.)

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

### Typewriters For Sale.

The Supply Department has on sale a number of Underwood typewriters, second hand, model 4. Price range from \$20 to \$30. Inspection can be made by applying to Storekeeper, S. D., administration Building, Balboa Heights.

### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

### Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line), Pacific Mail Steamship Company, and Matson Line. The two last named charge \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

### Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

### Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

### Certificate.

By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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Volume XV.

Balboa Heights, C. Z., March 8, 1922.

No. 30.

## Difficult Salvage Job on the "Garfield."

The salvage section of The Panama Canal has been engaged since the latter part of January in the effort to save the American steamer *Garfield*, of the Grace Line, which is aground in the Bay of Galera de Zamba, on the coast of Colombia, about 25 miles to the northeast of Cartagena. The work has been difficult and hazardous on account of gales and rough seas over an area of shallow water.

Skirting the coast in the night the master of the *Garfield* mistook the Galera Point light for the Puerto Colombia light. Running into shoal water, he dropped anchor, but the vessel, swinging around in the heavy seas, dragged anchor and grounded astern. Then the anchor carried away and the *Garfield* was swept in toward land for a distance of  $1\frac{3}{4}$  miles from the 18-foot contour, coming to rest in 5 feet of water, although she had been drawing 14 feet 6 inches in the open sea. The task of the salvors is to bring her out again across that distance to deep water. To do this it has been necessary to lay about 5,500 feet of steel ground cable, to be attached to anchors, against which the *Garfield* can pull with her own anchor engine and other winches. The work has gone slowly on account of the impossibility of sending competent equipment into the shallows. The salvage steamer *Favorite*, going as near as her master dared risk, has grounded repeatedly, and vessels of lighter draft have been unable to handle the work.

The *Favorite* lost her rudder last week, and the tug *Tavernilla* was despatched to tow her back to Cristobal for repairs. Work on her is being rushed at the Cristobal dry dock, and upon its completion she will return to the *Garfield*.

The *Garfield* has cargo aboard, but so far it has not been necessary to jettison it. Unless worse weather prevails it is expected that the ship will be saved within the coming week.

## Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending March 4, 1922.

| Name of vessel. | Line or charterer.                | Arrived.    | Departed.   | Cargo—     |        |
|-----------------|-----------------------------------|-------------|-------------|------------|--------|
|                 |                                   |             |             | Discharged | Laded. |
|                 |                                   |             |             | Tons.      | Tons.  |
| Ares.           | Royal Dutch W. I. Mail Co         | February 28 | February 28 | 230        |        |
| Jamaica         | Pacific Steam Navigation Co       | February 28 | February 28 |            | 13     |
| Salvador        | Pacific Steam Navigation Co       | March 1.    | March 1.    | 5          |        |
| Aysen           | South American Steamship Line     | March 2.    | March 3.    | 91         |        |
| Toba Maru       | Nippon Yusen Kaisha               | March 2.    | March 3.    | 150        |        |
| Rakuyo Maru     | Toyo Kisen Kaisha                 | March 2.    | March 3.    | 517        |        |
| Laura C. Hall   | Pacific Metals Transportation Co. | March 4.    | March 4.    | 15         |        |

MOVEMENTS OF OCEAN VESSELS.  
Week ending at midnight, March 4, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                   | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.      | Length.                           | Beam. | Salt water draft. | From— | For—           | Cargo.         |           | Panama Canal tonnage. |        |        |
|-------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------|-----------------------------------|-------|-------------------|-------|----------------|----------------|-----------|-----------------------|--------|--------|
|                         | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |            |                                   |       |                   |       |                | Nature.        | Tons.     | Gross.                | Net.   |        |
| Australind              | 25               | 14    | 34             | 26    | 6                  | 27    | 26               | 13    | 43           | British    | Australind Steamship Corp.        | 384.1 | 50.1              | 22.3  | St. John.      | Melbourne      | General   | 2,412                 | 5,654  | 4,167  |
| Plum Branch             | 25               | 17    | 55             | 26    | 7                  | 17    | 26               | 14    | 48           | British    | Nauticus Steamship Co.            | 400.0 | 53.0              | 20.0  | Liverpool      | Guayaquil.     | General   | 4,342                 | 5,761  | 3,881  |
| San Joaquin.            | 25               | 20    | 30             | 26    | 8                  | 20    | 26               | 15    | 57           | Norwegian. | W. Wilhelmsen                     | 425.4 | 57.1              | 26.0  | Tampico.       | Tacapa.        | Crude oil | 9,487                 | 7,059  | 5,043  |
| Artigas.                | 23               | 6     | 37             | 26    | 9                  | 12    | 26               | 16    | 48           | American   | N. Atl. & West. S. S. Co. (S. B.) | 280.0 | 54.0              | 18.7  | Philadelphia.  | Seattle.       | General   | 2,426                 | 6,161  | 4,426  |
| Santa Isabel            | 25               | 16    | 04             | 26    | 11                 | 20    | 26               | 15    | 53           | American   | American and Cuban S. S. Line     | 251.0 | 43.6              | 26.8  | New York       | San Francisco. | General   | 3,260                 | 2,823  | 1,740  |
| Oseage                  | 26               | 12    | 30             | 26    | 12                 | 20    | 26               | 21    | 47           | American   | Moore & McCormack (S. B.)         | 395.0 | 49.0              | 25.0  | New Orleans    | Los Angeles.   | General   | 5,732                 | 5,229  | 3,734  |
| Dorset.                 | 26               | 12    | 53             | 27    | 6                  | 15    | 27               | 16    | 48           | British    | Federal Steam Navigation Co.      | 460.0 | 58.0              | 29.0  | Liverpool      | Auckland       | General   | 7,270                 | 9,188  | 6,581  |
| Saint Andre.            | 24               | 9     | 55             | 27    | 7                  | 05    | 27               | 17    | 04           | French     | French Line                       | 397.9 | 50.0              | 17.2  | Bordeaux.      | Guayaquil      | General   | 1,099                 | 5,917  | 4,146  |
| Ares.                   | 25               | 11    | 40             | 27    | 8                  | 20    | 27               | 17    | 56           | Dutch.     | Royal Netherlands W. I. Mail.     | 340.0 | 48.0              | 13.8  | Amsterdam.     | Guayaquil      | General   | 1,600                 | 4,385  | 3,195  |
| Zealandia.              | 26               | 18    | 27             | 27    | 9                  | 30    | 27               | 19    | 03           | British.   | Shaw, Saville & Albion Co.        | 477.5 | 63.1              | 26.0  | Liverpool.     | Auckland.      | General   | 3,670                 | 11,754 | 8,452  |
| Wabash.                 | 27               | 15    | 32             | 28    | 6                  | 35    | 28               | 15    | 02           | American   | N. Atl. & West. S. S. Co.         | 381.0 | 49.9              | 26.0  | Baltimore.     | Los Angeles.   | General   | 4,600                 | 5,825  | 4,152  |
| Independence.           | 27               | 6     | 30             | 28    | 7                  | 20    | 28               | 16    | 06           | American   | Barber Line (S. B.)               | 440.0 | 56.0              | 30.0  | New York       | Yokohama.      | General   | 10,000                | 8,290  | 6,063  |
| Renacio.                | 26               | 12    | 36             | 28    | 8                  | 32    | 28               | 17    | 09           | Chilean.   | Chilean Line (S. B.)              | 412.0 | 50.5              | 28.3  | Liverpool      | Valparaiso     | General   | 2,738                 | 6,050  | 3,442  |
| Jamaica.                | 27               | 9     | 00             | 28    | 9                  | 30    | 28               | 18    | 08           | British.   | Pacific Steam Navigation Co.      | 220.0 | 34.0              | 12.10 | Pto. Colombia. | Turnao.        | General   | 236                   | 1,187  | 622    |
| Urubamba.               | 28               | 15    | 23             | 28    | 11                 | 10    | 28               | 18    | 19           | Peruvian.  | Peruvian Line                     | 381.2 | 46.1              | 19.1  | Cristobal.     | Callao.        | General   | 570                   | 4,803  | 2,951  |
| Ruth Alexander          | 28               | 20    | 52             | 1     | 6                  | 12    | 1                | 13    | 27           | American   | Dollar Line                       | 439.0 | 56.0              | 21.2  | Baltimore.     | Los Angeles.   | General   | 2,109                 | 9,287  | 6,302  |
| Chas. H. Crump          | 1                | 9     | 00             | 1     | 7                  | 40    | 1                | 14    | 56           | American   | Atl. Gulf & Pacific Co. (S. B.).  | 404.6 | 59.3              | 22.0  | New York       | Seattle.       | General   | 4,000                 | 6,755  | 4,750  |
| Unita.                  | 1                | 9     | 00             | 1     | 9                  | 49    | 1                | 16    | 54           | American   | F. M. Wrangell & Co.              | 338.1 | 48.0              | 16.0  | Norfolk.       | Astoria.       | Ballast.  | 3,999                 | 2,924  | 1,924  |
| Blossom Heath.          | 1                | 1     | 54             | 1     | 10                 | 49    | 1                | 18    | 53           | British    | Steam Navigation Co. of Canada.   | 400.0 | 42.0              | 29.2  | New York       | Yokohama.      | General   | 6,530                 | 6,005  | 4,225  |
| Santa Veronica.         | 1                | 6     | 30             | 1     | 12                 | 55    | 1                | 19    | 43           | American   | American and Cuban S. S. Line.    | 251.0 | 43.6              | 23.7  | New York       | Los Angeles.   | General   | 2,818                 | 2,823  | 1,740  |
| Theben.                 | 28               | 20    | 52             | 2     | 6                  | 15    | 2                | 13    | 33           | German.    | Kosmos Line                       | 339.0 | 43.0              | 16.0  | Bremen.        | Mazatlan.      | General   | 1,212                 | 4,094  | 2,924  |
| Oreoma.                 | 1                | 16    | 53             | 2     | 8                  | 10    | 2                | 15    | 14           | British    | Pacific Steam Navigation Co.      | 511.6 | 62.0              | 25.2  | Liverpool.     | Valparaiso.    | General   | 1,609                 | 12,267 | 7,942  |
| Lehigh.                 | 2                | 11    | 16             | 2     | 11                 | 33    | 2                | 18    | 34           | American   | N. Atl. & West. S. S. Co. (S. B.) | 390.0 | 51.2              | 19.0  | Boston.        | Seattle.       | General   | 2,134                 | 6,134  | 4,292  |
| Ansar.                  | 1                | 19    | 04             | 2     | 9                  | 35    | 2                | 16    | 09           | German.    | Roland Line                       | 408.0 | 54.0              | 17.0  | Hamburg.       | Guayaquil.     | General   | 1,601                 | 6,542  | 4,532  |
| Jacob Luckenbach.       | 2                | 18    | 10             | 3     | 6                  | 47    | 3                | 15    | 26           | American   | Luckenbach Line                   | 414.5 | 53.7              | 27.0  | Mobile         | Seattle.       | General   | 5,688                 | 1,213  | 692    |
| Salvador.               | 1                | 20    | 10             | 3     | 7                  | 50    | 3                | 17    | 25           | British.   | Pacific Steam Navigation Co.      | 215.0 | 33.5              | 13.2  | Cristobal.     | Champerico.    | Ballast.  | 7,050                 | 6,187  | 4,541  |
| Woyo Maru.              | 3                | 6     | 58             | 3     | 8                  | 50    | 3                | 17    | 26           | Japanese.  | Toyo Kisen Kaisha                 | 400.0 | 53.0              | 26.4  | New York.      | Kobe.          | General   | 5,000                 | 6,226  | 4,001  |
| Seattle Maru.           | 3                | 10    | 35             | 3     | 11                 | 05    | 3                | 18    | 53           | Japanese.  | Oosaka Shosen Kaisha              | 410.0 | 51.0              | 25.5  | New Orleans.   | Kobe.          | (*)       |                       |        |        |
| David Putnam.           | 3                | 14    | 24             | 4     | 6                  | 20    | 4                | 8     | 37           | American   | United States Army                |       |                   |       | Cristobal.     | Gastan Lake.   | General   | 850                   |        |        |
| Hector.                 | 3                | 14    | 24             | 4     | 6                  | 20    | 4                | 14    | 20           | British.   | Alfred Holt & Co.                 | 391.0 | 47.2              | 18.0  | Liverpool.     | Seattle.       | General   |                       |        |        |
| Patuxent <sup>a</sup> . | 21               | 17    | 07             | 4     | 6                  | 34    | 4                | 14    | 12           | American   | United States Navy.               |       |                   |       | Cristobal.     | Balboa.        | General   |                       |        |        |
| Montana.                | 3                | 12    | 25             | 4     | 7                  | 22    | 4                | 17    | 03           | French     | French Line.                      | 421.0 | 55.0              | 26.10 | Harve.         | Vancouver.     | General   | 5,446                 | 6,327  | 4,360  |
| Tregante.               | 4                | 6     | 25             | 4     | 8                  | 25    | 4                | 18    | 20           | American   | Hain Steamship Co.                | 400.2 | 52.1              | 23.0  | Barry.         | Thames, N. Z.  | Coal      | 5,559                 |        |        |
| Hawkeye State.          | 4                | 7     | 17             | 4     | 9                  | 05    | 4                | 19    | 05           | British.   | Matson Line (S. B.)               | 517.0 | 72.2              | 25.4  | Baltimore.     | Honolulu.      | General   | 300                   | 15,234 | 10,471 |
| Almagro.                | 3                | 18    | 08             | 4     | 11                 | 57    | 4                | 20    | 16           | British.   | McAndrews Co.                     | 303.0 | 43.0              | 16.0  | New York.      | Guayaquil.     | General   | 930                   | 2,878  | 1,711  |

\* Iron, cotton, and general.

\* Tug.

\* Launch.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|               |    |       |    |       |    |       |    |       |          |                                    |       |      |       |                |              |                 |        |        |        |
|---------------|----|-------|----|-------|----|-------|----|-------|----------|------------------------------------|-------|------|-------|----------------|--------------|-----------------|--------|--------|--------|
| Pacific       | 25 | 15.50 | 26 | 6.49  | 26 | 15.05 | 26 | 23.20 | Danish   | The Oversea Trading Co.            | 378.0 | 52.2 | 22.10 | Apia, Samoa I. | Aarhus, Den. | Copra           | 6,361  | 5,780  | 4,507  |
| S. C. 284     | 24 | 11.51 | 26 | 7.09  | 26 | 14.15 | 26 | 19.15 | American | United States Navy                 | 110.0 | 16.0 | 22.10 | Batavia        | Cristobal    |                 |        |        |        |
| Apple Branch  | 26 | 7.15  | 26 | 7.53  | 26 | 15.36 | 26 | 19.15 | British  | Nautilus Steamship Co.             | 370.0 | 51.7 | 23.10 | Valparaiso     | Liverpool    | Ore             | 6,035  | 5,112  | 3,511  |
| Cabore        | 25 | 10.26 | 27 | 7.29  | 27 | 15.17 | 27 | 15.17 | American | Ore Steamship Corporation          | 450.6 | 57.2 | 27.0  | Cruz Grande    | Baltimore    |                 | 10,000 | 7,867  | 4,829  |
| Santa Teresa  | 27 | 10.15 | 27 | 11.33 | 27 | 18.05 | 27 | 23.30 | American | Grace Line                         | 360.2 | 51.6 | 22.6  | Talcahuano     | New York     | General         | 2,813  | 7,726  | 4,086  |
| Steel Mariner | 27 | 10.25 | 27 | 11.59 | 27 | 20.10 | 28 | 5.12  | American | Island Steamship Lines             | 424.2 | 56.2 | 22.0  | San Pedro      | New York     | General         | 6,889  | 7,539  | 5,448  |
| Dochra        | 27 | 11.25 | 27 | 13.09 | 27 | 20.34 | 27 | 21.45 | American | Barber Line                        | 376.0 | 51.0 | 18.6  | Seattle        | New York     | General         | 4,000  | 5,153  | 3,813  |
| Argosy        | 27 | 14.43 | 28 | 6.32  | 28 | 14.50 | 28 | 16.30 | American | Wessel & Duval (S. B.)             | 390.0 | 54.2 | 24.7  | Valparaiso     | New York     |                 | 7,245  | 6,151  | 4,379  |
| Canadian      | 27 | 18.20 | 29 | 8.08  | 28 | 16.11 | 28 | 17.31 | British  | Canadian Government                | 400.8 | 52.4 | 18.6  | Brisbane       | Halifax      | General         | 2,600  | 5,877  | 4,070  |
| Pioneer       | 1  | 7.55  | 1  | 8.35  | 1  | 15.53 | 1  | 15.53 | American | Pacific Mail Steamship Co. (S. B.) | 502.1 | 62.2 | 24.1  | San Francisco  | New York     | Ballast         |        | 12,031 | 8,443  |
| Granite State | 27 | 14.38 | 1  | 10.17 | 1  | 17.03 | 1  | 17.03 | American | Molson Navigation Co. (S. B.)      | 517.0 | 72.2 | 24.1  | Honolulu       | Baltimore    | Borax, general  | 513    | 15,234 | 10,405 |
| Buckeye State | 1  | 12.50 | 1  | 14.00 | 1  | 20.10 | 3  | 7.50  | British  | Pacific Steam Navigation Co.       | 375.0 | 33.5 | 13.6  | Guayaquil      | Cristobal    |                 | 212    | 1,213  | 692    |
| Salvador      | 2  | 12.50 | 3  | 6.29  | 3  | 13.55 | 5  | 18.25 | Chilean  | Chilean Line                       | 319.6 | 44.3 | 18.0  | Valparaiso     | Cristobal    | General         | 64     | 4,535  | 3,068  |
| Aysen         | 2  | 16.30 | 3  | 7.38  | 3  | 15.25 | 4  | 7.00  | Dutch    | Royal Dutch Steamship Co.          | 362.0 | 52.0 | 22.0  | Valparaiso     | Hamburg      | General         | 4,459  | 5,117  | 3,807  |
| Kennecott     | 28 | 17.45 | 3  | 9.27  | 3  | 16.32 | 4  | 7.00  | American | Alaska Steamship Co.               | 345.3 | 49.6 | 24.3  | Seattle        | New York     | General         | 5,345  | 4,593  | 3,381  |
| Toba Maru     | 2  | 18.30 | 3  | 11.13 | 3  | 18.35 | 4  | 18.35 | Japanese | Nippon Yusen Kaisha                | 440.8 | 58.0 | 22.0  | Manila         | New York     |                 | 7,813  | 8,058  | 6,743  |
| Jones Timpon  | 3  | 10.35 | 3  | 11.40 | 3  | 21.30 | 4  | 5.00  | American | The Resolved Corporation           | 260.8 | 45.0 | 22.0  | Rio Congo      | New Orleans  | Lumber          | 1,600  | 2,234  | 1,080  |
| Clan Morrison | 3  | 16.30 | 4  | 6.41  | 4  | 14.05 | 4  | 15.52 | British  | Clan Line, Ltd.                    | 409.5 | 53.5 | 23.0  | Suva, Fiji     | United King  | Copra           | 3,850  |        |        |
| Gen. O. H.    | 3  | 22.28 | 4  | 7.51  | 4  | 15.15 | 5  | 13.05 | American | Panama Railroad Steamship Line     | 356.4 | 45.3 | 18.3  | Guayaquil      | New York     |                 | 1,940  | 4,503  | 2,964  |
| Ernst         | 4  | 10.27 | 4  | 9.00  | 4  | 16.02 | 4  | 16.02 | American | Lukenbach Line                     | 331.5 | 47.0 | 20.3  | San Francisco  | New Orleans  | General         | 2,103  | 4,147  | 3,259  |
| K. I. Lucken- | 4  | 0.45  | 4  | 9.13  | 4  | 17.06 | 4  | 17.06 | American | Lukenbach Line                     | 446.0 | 56.1 | 25.0  | Seattle        | New York     | General         | 6,000  | 8,552  | 6,236  |
| bach          | 4  | 4.30  | 4  | 10.50 | 4  | 18.45 | 5  | 12.40 | American | American-Hawaiian Line             | 407.7 | 53.7 | 21.0  | Los Angeles    | New York     | General         | 4,647  | 7,121  | 4,896  |
| Ohion         | 4  | 13.00 | 4  | 13.28 | 4  | 21.10 | 5  | 12.40 | American | United States Steel Products Co.   | 395.5 | 55.0 | 24.6  | Portland       | New York     | Lumber, general | 6,582  | 7,285  | 5,256  |

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

\* Motor ship.

\* Borax and general.

\* Copper, ore, and general.

\* Coffee, cocoa, ivory nuts, and general.

\* Lumber, wheat, and general.

\* Hides, coffee, and cocoa.

## PORT OF CRISTOBAL.

| *ARRIVALS. |            |                                |                                | *DEPARTURES. |                          |                               |                            |
|------------|------------|--------------------------------|--------------------------------|--------------|--------------------------|-------------------------------|----------------------------|
| Date.      | Vessel.    | From—                          | Line.                          | Date.        | Vessel.                  | Line.                         | For—                       |
| Feb. 26    | Zacapa     | United Fruit Co.               | United Fruit Co.               | Feb. 26      | San Juan                 | Bluefields Fruit Co.          | Bluefields.                |
| Feb. 26    | Norwegian  | Levyland Line                  | Norwegian                      | Feb. 27      | St. Michel <sup>10</sup> | United States Army            | New York via San Juan.     |
| Feb. 27    | Cartago    | United Fruit Co.               | United Fruit Co.               | Feb. 27      | Zacapa                   | United Fruit Co.              | Bocas del Toro.            |
| Feb. 28    | Venezuela  | Royal Netherlands W. I. Mail   | Royal Netherlands W. I. Mail   | Feb. 28      | Cartago                  | United Fruit Co.              | New Orleans via waypoints. |
| Feb. 28    | Cliona     | Ando-Saxon, Petroleum Co.      | Ando-Saxon, Petroleum Co.      | Feb. 28      | Norwegian                | Levyland Line                 | New Orleans.               |
| Feb. 28    | Maoris     | French Line                    | French Line                    | Mar. 1       | San Gil                  | United Fruit Co.              | Boston via waypoints.      |
| Mar. 1     | Megantic   | White Star Line                | White Star Line                | Mar. 1       | Venezuela                | Royal Netherlands W. I. Mail. | Puerto Colombia.           |
| Mar. 1     | San Gil    | United Fruit Co.               | United Fruit Co.               | Mar. 1       | Camden                   | United Fruit Co.              | Tampico.                   |
| Mar. 1     | Occidental | Texas Oil Co.                  | Texas Oil Co.                  | Mar. 2       | Cliona                   | Anglo-Saxon Petroleum Co.     | Tampico.                   |
| Mar. 1     | Panama     | Panama Railroad Steamship Line | Panama Railroad Steamship Line | Mar. 2       | Megantic                 | White Star Line               | New York via waypoints.    |
| Mar. 2     | Zacapa     | Bocas del Toro.                | Bocas del Toro.                | Mar. 2       | Zacapa                   | United Fruit Co.              | New Orleans.               |
| Mar. 3     | Tolca      | United Fruit Co.               | United Fruit Co.               | Mar. 3       | Occidental               | Texas Oil Co.                 | Tampico.                   |

<sup>10</sup> Transport.

(Continued on page 400, column 2.)



# Commercial Traffic Through the Panama Canal in February, 1922, by Trade Routes.

ATLANTIC TO PACIFIC.

| Route and registry.                                                     | No. of Vessels. | TONNAGE.                  |                   |                   |                 | Tolls.      | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |                   |
| <i>From east coast of United States to Far East:</i>                    |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| Japanese.....                                                           | 7               | 29,533                    | 32,582            | 42,795            | 29,106          | \$36,196.80 | 49,176            |
| United States.....                                                      | 5               | 20,337                    | 28,289            | 30,474            | 18,671          | 25,421.25   | 42,472            |
| British.....                                                            | 5               | 20,675                    | 26,682            | 31,182            | 19,583          | 25,676.65   | 41,858            |
| Totals.....                                                             | 17              | 70,545                    | 87,553            | 104,451           | 67,360          | 87,294.70   | 133,506           |
| <i>United States coastwise:</i>                                         |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 25              | 93,004                    | 117,512           | 143,103           | 92,925          | 116,235.50  | 94,548            |
| <i>From Europe to west coast of United States:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 11,495                    | 11,920            | 12,348            | 7,915           | 11,423.85   | 5,315             |
| United States.....                                                      | 11              | 4,426                     | 5,938             | 7,252             | 4,426           | 4,275.36    |                   |
| Swedish.....                                                            | 1               | 2,303                     | 3,969             | 3,802             | 2,839           | 2,878.75    | 1,385             |
| Totals.....                                                             | 14              | 18,224                    | 21,827            | 23,402            | 15,180          | 18,577.96   | 6,700             |
| <i>From Europe to west coast of South America:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 4               | 11,475                    | 16,309            | 18,346            | 11,500          | 14,343.75   | 13,373            |
| German.....                                                             | 2               | 9,156                     | 9,933             | 12,022            | 7,554           | 11,134.30   | 4,315             |
| Dutch.....                                                              | 2               | 4,556                     | 5,827             | 7,311             | 4,504           | 5,685.00    | 2,850             |
| French.....                                                             | 1               | 3,600                     | 4,146             | 5,765             | 3,681           | 4,500.00    | 1,090             |
| Chilean.....                                                            | 1               | 2,754                     | 3,442             | 5,961             | 2,981           | 3,442.50    | 2,738             |
| Totals.....                                                             | 10              | 31,541                    | 39,657            | 49,405            | 30,220          | 39,115.55   | 24,366            |
| <i>From east coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 5               | 14,060                    | 16,792            | 22,184            | 13,680          | 15,726.88   | 10,404            |
| Norwegian.....                                                          | 3               | 3,784                     | 5,013             | 6,181             | 3,753           | 4,730.00    | 5,207             |
| British.....                                                            | 1               | 4,778                     | 6,247             | 8,480             | 5,174           | 5,972.50    | 2,295             |
| Danish.....                                                             | 1               | 2,438                     | 2,485             | 2,465             | 1,685           | 3,047.50    | 4,246             |
| Swedish.....                                                            | 1               | 1,338                     | 1,431             | 2,242             | 1,595           | 1,672.50    | 1,769             |
| Totals.....                                                             | 11              | 26,398                    | 31,968            | 41,552            | 25,887          | 31,149.38   | 23,921            |
| <i>From Cristobal, C. Z., to west coast of South America:</i>           |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 6               | 2,796                     | 3,360             | 4,977             | 2,957           | 3,108.70    | 1,396             |
| Peruvian.....                                                           | 2               | 3,021                     | 5,910             | 9,361             | 5,100           | 3,776.25    | 901               |
| Chilean.....                                                            | 2               | 3,085                     | 5,338             | 6,527             | 3,905           | 3,857.50    | 1,328             |
| United States.....                                                      | 2               | 668                       | 670               | 1,230             | 746             | 652.50      | 20                |
| Totals.....                                                             | 12              | 9,571                     | 15,278            | 22,095            | 12,708          | 11,394.95   | 3,645             |
| <i>From Europe to Australasia:</i>                                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 9               | 52,222                    | 63,962            | 75,381            | 47,258          | 64,858.05   | 30,294            |
| <i>From United States to Australasia:</i>                               |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 3               | 14,838                    | 17,568            | 21,242            | 13,463          | 18,345.80   | 19,935            |
| United States.....                                                      | 1               | 3,604                     | 4,480             | 5,816             | 3,604           | 4,505.00    | 5,600             |
| Totals.....                                                             | 4               | 18,442                    | 22,048            | 27,058            | 17,067          | 22,850.80   | 25,535            |
| <i>From Europe to west coast of Canada:</i>                             |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 4,776                     | 5,971             | 7,569             | 4,793           | 5,970.00    | 2,695             |
| United States.....                                                      | 1               | 4,168                     | 5,105             | 6,784             | 4,212           | 5,210.00    | 6,758             |
| Totals.....                                                             | 2               | 8,944                     | 11,076            | 14,353            | 9,005           | 11,180.00   | 9,453             |
| <i>From Cristobal, C. Z., to west coast of Central America:</i>         |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 1,401                     | 1,577             | 2,731             | 1,463           | 1,751.25    | 1,370             |
| <i>From east coast of Mexico to west coast of South America:</i>        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 9,086                     | 10,479            | 15,000            | 9,462           | 9,289.12    | 8,350             |
| Norwegian.....                                                          | 2               | 8,825                     | 10,094            | 14,009            | 8,860           | 11,031.25   | 18,687            |
| Totals.....                                                             | 4               | 17,911                    | 20,573            | 29,009            | 18,322          | 20,320.37   | 27,037            |
| <i>From east coast of United States to west coast of Canada:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 2               | 8,530                     | 9,246             | 12,126            | 8,476           | 10,662.50   | 13,050            |
| <i>From Europe to Far East:</i>                                         |                 |                           |                   |                   |                 |             |                   |
| Japanese.....                                                           | 1               | 5,174                     | 5,979             | 8,230             | 5,115           | 6,467.50    |                   |
| British.....                                                            | 1               | 3,116                     | 4,071             | 4,896             | 3,136           | 3,895.00    | 7,400             |
| Totals.....                                                             | 2               | 8,290                     | 10,050            | 13,126            | 8,251           | 10,362.50   | 7,400             |
| <i>From east coast of Canada to Australasia:</i>                        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 6,764                     | 8,261             | 10,972            | 6,846           | 8,455.00    | 7,880             |



## ATLANTIC TO PACIFIC—Continued.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.     | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |            |                   |
| <i>Foreign vessel between United States coastwise ports:</i>            |                 |                           |                   |                   |                 |            | <i>Long tons.</i> |
| British.....                                                            | 1               | 4,786                     | 5,669             | 7,380             | 4,830           | \$5,982 50 | 7,000             |
| <i>From east coast of Mexico to Far East:</i>                           |                 |                           |                   |                   |                 |            |                   |
| Japanese.....                                                           | 1               | 5,513                     | 6,385             | 9,049             | 6,552           | 6,891 25   | 8,000             |
| <i>From east coast of Mexico to Balboa, C. Z.:</i>                      |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 1               | 3,051                     | 3,519             | 5,073             | 3,026           | 3,813 75   | 6,700             |
| <i>From east coast of South America to west coast of United States:</i> |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 1               | 3,034                     | 4,174             | 4,748             | 2,925           | 3,792 50   | 5,506             |
| <i>From West Indies to Far East:</i>                                    |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 2,524                     | 3,209             | 3,986             | 2,546           | 3,155 00   | 5,250             |
| <i>From Cristobal, C. Z., to west coast of United States:</i>           |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 1               | 1,862                     | 2,206             | 3,169             | 1,862           | 2,327 50   | 1,428             |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 614                       | 622               | 1,138             | 602             | 746 40     | 236               |
| <i>Local:</i>                                                           |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 1               | 1,646                     | 1,633             | 2,016             | 1,646           | 2,016 00   | .....             |
| Totals, February, 1922.                                                 | 114             | 394,817                   | 488,005           | 605,323           | 384,957         | 482,933 41 | 442,825           |
| Totals, January, 1922..                                                 | 125             | 416,527                   | 513,764           | 646,371           | 420,419         | 516,256 62 | 493,591           |
| Totals, February, 1921.                                                 | 114             | 362,427                   | 435,233           | 556,798           | 354,964         | 449,616 29 | 474,872           |

## PACIFIC TO ATLANTIC.

|                                                                         |    |        |        |         |        |             |        |
|-------------------------------------------------------------------------|----|--------|--------|---------|--------|-------------|--------|
| <i>United States coastwise:</i>                                         |    |        |        |         |        |             |        |
| United States.....                                                      | 19 | 68,776 | 89,862 | 109,745 | 69,126 | \$84,133 82 | 84,330 |
| <i>From west coast of South America to east coast of United States:</i> |    |        |        |         |        |             |        |
| United States.....                                                      | 6  | 16,108 | 20,648 | 26,911  | 16,266 | 20,131 30   | 26,454 |
| British.....                                                            | 3  | 9,324  | 11,452 | 15,701  | 9,629  | 11,655 00   | 9,586  |
| Norwegian.....                                                          | 2  | 6,112  | 6,698  | 8,534   | 6,106  | 7,364 05    | 10,043 |
| Swedish.....                                                            | 1  | 1,091  | 1,213  | 1,824   | 1,085  | 1,363 75    | 2,250  |
| Totals.....                                                             | 12 | 32,635 | 40,011 | 52,970  | 33,086 | 40,514 10   | 48,333 |
| <i>From west coast of South America to Europe:</i>                      |    |        |        |         |        |             |        |
| British.....                                                            | 5  | 20,283 | 24,127 | 32,611  | 20,910 | 25,353 75   | 34,731 |
| Italian.....                                                            | 2  | 5,822  | 7,299  | 10,048  | 6,050  | 7,277 50    | 1,110  |
| German.....                                                             | 2  | 6,729  | 7,575  | 8,663   | 5,391  | 8,207 10    | 11,905 |
| French.....                                                             | 1  | 3,147  | 3,980  | 5,330   | 3,462  | 3,933 75    | 5,163  |
| Dutch.....                                                              | 1  | 2,012  | 3,120  | 3,209   | 1,989  | 2,515 00    | 4,230  |
| Totals.....                                                             | 11 | 38,023 | 46,101 | 59,861  | 37,802 | 47,287 10   | 57,139 |
| <i>From west coast of South America to Cristobal, C. Z.</i>             |    |        |        |         |        |             |        |
| British.....                                                            | 5  | 2,191  | 2,729  | 3,839   | 2,355  | 2,389 21    | 540    |
| Chilean.....                                                            | 2  | 3,086  | 3,338  | 6,527   | 3,905  | 3,857 50    | 468    |
| Peruvian.....                                                           | 2  | 3,021  | 3,910  | 9,361   | 5,100  | 3,776 25    | 3,552  |
| United States.....                                                      | 1  | 334    | 335    | 615     | 373    | 402 00      | 163    |
| Totals.....                                                             | 10 | 8,632  | 14,312 | 20,342  | 11,733 | 10,424 96   | 4,723  |
| <i>From west coast of United States to Europe:</i>                      |    |        |        |         |        |             |        |
| United States.....                                                      | 3  | 12,938 | 17,293 | 20,803  | 13,005 | 16,172 50   | 26,500 |
| British.....                                                            | 3  | 11,111 | 13,742 | 16,266  | 9,879  | 13,888 75   | 17,866 |
| Norwegian.....                                                          | 1  | 3,046  | 3,886  | 4,894   | 3,054  | 3,807 50    | 6,400  |
| Swedish.....                                                            | 1  | 2,286  | 4,013  | 3,764   | 2,852  | 2,857 50    | 5,984  |
| French.....                                                             | 1  | 2,264  | 2,933  | 3,563   | 2,293  | 2,830 00    | 4,372  |
| Totals.....                                                             | 9  | 31,645 | 41,867 | 49,290  | 31,083 | 39,556 25   | 61,122 |
| <i>From west coast of Canada to Europe:</i>                             |    |        |        |         |        |             |        |
| United States.....                                                      | 2  | 9,402  | 11,293 | 13,511  | 8,470  | 11,752 50   | 17,283 |
| British.....                                                            | 2  | 7,609  | 10,484 | 11,223  | 7,132  | 9,511 25    | 15,400 |
| French.....                                                             | 1  | 4,874  | 5,001  | 6,687   | 4,236  | 6,007 20    | 6,805  |
| Dutch.....                                                              | 1  | 4,474  | 6,911  | 7,310   | 4,495  | 5,592 50    | 9,693  |
| Totals.....                                                             | 6  | 26,359 | 33,689 | 38,731  | 24,333 | 32,863 45   | 49,181 |
| <i>From west coast of Canada to east coast of United States:</i>        |    |        |        |         |        |             |        |
| United States.....                                                      | 4  | 16,704 | 19,621 | 24,569  | 16,775 | 20,731 05   | 16,529 |

## PACIFIC TO ATLANTIC—Continued.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                  | Tolls.      | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|------------------|-------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net.  |             |                   |
| <i>From Australasia to Europe:</i>                                      |                 |                           |                   |                   |                  |             | <i>Long tons.</i> |
| British.....                                                            | 4               | 24,305                    | 28,157            | 37,773            | 24,906           | \$30,248.75 | 21,717            |
| Danish.....                                                             | 1               | 4,131                     | 4,507             | 4,088             | 2,506            | 5,163.75    | 6,364             |
| Totals.....                                                             | 5               | 28,436                    | 32,664            | 41,861            | 27,412           | 35,412.50   | 28,081            |
| <i>From west coast of South America to east coast of Mexico:</i>        |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 1               | 4,645                     | 5,311             | 7,270             | 4,513            | 3,823.92    | .....             |
| Norwegian.....                                                          | 1               | 4,418                     | 5,043             | 6,987             | 4,422            | 3,630.98    | .....             |
| Totals.....                                                             | 2               | 9,063                     | 10,354            | 14,257            | 8,935            | 7,454.88    | .....             |
| <i>From Far East to east coast of United States:</i>                    |                 |                           |                   |                   |                  |             |                   |
| United States.....                                                      | 3               | 12,197                    | 17,190            | 19,674            | 12,139           | 15,246.25   | 19,959            |
| <i>From Central America to Europe:</i>                                  |                 |                           |                   |                   |                  |             |                   |
| German.....                                                             | 2               | 2,931                     | 4,323             | 5,034             | 2,945            | 3,663.75    | 1,841             |
| British.....                                                            | 1               | 763                       | 871               | 1,561             | 809              | 953.75      | 748               |
| Totals.....                                                             | 3               | 3,694                     | 5,194             | 6,595             | 3,754            | 4,617.50    | 2,589             |
| <i>From Central America to Cristobal, C. Z.:</i>                        |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 2               | 1,495                     | 1,724             | 2,618             | 1,544            | 1,868.75    | 2,214             |
| United States.....                                                      | 1               | 1,862                     | 2,205             | 3,169             | 1,862            | 2,327.50    | 1,625             |
| Totals.....                                                             | 3               | 3,357                     | 3,930             | 5,787             | 3,406            | 4,196.25    | 3,839             |
| <i>From Balboa, C. Z., to east coast of Mexico:</i>                     |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 1               | 3,255                     | 3,714             | 5,631             | 3,230            | 2,674.08    | .....             |
| United States.....                                                      | 1               | 3,051                     | 3,519             | 5,073             | 3,026            | 2,533.68    | .....             |
| Totals.....                                                             | 2               | 6,306                     | 7,233             | 10,704            | 6,256            | 5,207.76    | .....             |
| <i>From west coast of Canada to east coast of Mexico:</i>               |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 1               | 8,029                     | 8,130             | 10,397            | 7,725            | 6,021.75    | .....             |
| <i>From west coast of United States to east coast of Mexico:</i>        |                 |                           |                   |                   |                  |             |                   |
| United States.....                                                      | 1               | 5,140                     | 6,050             | 8,207             | 5,091            | 4,356.00    | .....             |
| <i>From Australasia to east coast of United States:</i>                 |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 1               | 4,188                     | 6,216             | 6,804             | 4,276            | 5,235.00    | 9,200             |
| <i>From Australasia to east coast of Canada:</i>                        |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 1               | 3,552                     | 4,070             | 5,758             | 3,549            | 4,440.00    | 2,600             |
| <i>From west coast of United States to east coast of South America:</i> |                 |                           |                   |                   |                  |             |                   |
| United States.....                                                      | 1               | 3,522                     | 4,914             | 5,652             | 3,522            | 4,402.50    | 800               |
| <i>From Far East to Europe:</i>                                         |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 1               | 2,704                     | 4,404             | 4,418             | 2,684            | 3,380.00    | 6,500             |
| <i>Mexican coastwise:</i>                                               |                 |                           |                   |                   |                  |             |                   |
| French.....                                                             | 1               | 2,155                     | 2,096             | 2,953             | 1,880            | 1,616.25    | .....             |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 1               | 614                       | 622               | 1,138             | 602              | 746.40      | 324               |
| <i>Miscellaneous:</i>                                                   |                 |                           |                   |                   |                  |             |                   |
| British.....                                                            | 1               | ( <sup>2</sup> )          | ( <sup>2</sup> )  | ( <sup>2</sup> )  | ( <sup>2</sup> ) | 5,489.00    | .....             |
| Totals, February, 1922                                                  | 98              | 315,731                   | 398,530           | 499,713           | 315,169          | 383,332.77  | 359,249           |
| Totals, January, 1922..                                                 | 85              | 272,508                   | 332,752           | 423,469           | 271,229          | 331,510.93  | 313,707           |
| Totals, February, 1921.                                                 | 127             | 401,498                   | 481,605           | 623,181           | 397,058          | 467,796.20  | 478,032           |

<sup>1</sup> Cruiser.<sup>2</sup> 10,978 tons displacement.

## Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended March 6:

Steamships *Corinthic*, dismantle, repair, reassemble, and test out steering engine; *Hwah Ping*, renew 2 pieces of copper pipe; *Buckeye State*, manufacture 100 taper flue plugs; *La Habra*, dock and undock; stage and clean; paint bottom 1 coat of anticorrosive and 1 coat of antifouling (paint furnished by ship); repair main engine; jack up furnace, No. 4 boiler; manufacture miscellaneous parts for oil-burning system; repair ammonia compressor, Worthington pump, Weir feed pump; manufacture miscellaneous lot of chisels; overhaul, grind in, and put in good condition all boiler valves; calk leaky rivets and install tap bolts in shell; renew defective parts of

pipe lines for ice machine, fire line, and bunker pipe line; re-cement around propeller nut; renew zinc plates on hull; *Rakuyo Maru*, dismantle; make temporary repairs to gear on steering engine; straighten arm; reassemble and test out steering gear; *Hawkeye State*, furnish laborers and supervision to clean out boilers and repair bearings on No. 1 generator; realign to turbine engine and install spare bearings on No. 2 generator.

## PREVIOUSLY REPORTED.

Tug *Gorgona*, dock and undock; stage and clean; chip and paint bottom; draw tail shaft and miscellaneous repairs to ship's operating gear; steamship *Advance*, dock and undock; stage and clean; paint bottom and miscellaneous running repairs; barge *No. 135*, straighten coaming; tighten bad order rivets; drill barge *L-55*, remove from water and place on dock; remove copper sheathing in spots for examination of hull.

The following vessels were at the Cristobal shops for repairs during the week ended March 6:

Steamships *Macoris*, repair No. 2 winch; repair 1 steam and 1 ammonia valve for ice machine; *Panama*, manufacture new packing box for H. P. piston rod; manufacture new H. P. rod, bull ring, follower, and bolts; repair hull on lifeboats and motor boat; make pins for blocks; straighten stanchion; repair hose reel; *Almagro*, prepare P. C. closed chocks for installation; *Salvador*, manufacture 12 cylinder cover studs, 2 compressor rods, 2 oil tank cocks, 2 blow-down valves, 4 winch stop valves, etc.; overhaul locks and keys on specie room; U. S. M. P. *Nones, Jr.*, rebrick boiler front; renew docking shoe; renew stem band and wooden stem, etc.; steamship *Sorato*, manufacture 2 tube stoppers; barges *Nos. 2 and 21*, renew deck plating as directed; steamship *Loch Katrine*, repair copper pipe; supply boat *No. 1*, manufacture valve and gaskets; steamships *Tolosa*, *Tregantle*, and *Aysen*, minor repairs.

**Commercial Traffic by Nationality of Vessels, Calendar Year 1921.**

The aggregate number and tonnage of commercial vessels of various nationalities passing through the Panama Canal during the calendar year 1921, and the total of tolls paid and cargo carried by them, are summarized in this table:

| Nationality.       | No.<br>of<br>ships. | TONNAGE.                        |                         |                      |                    | Tolls.        | Tons of<br>cargo. |
|--------------------|---------------------|---------------------------------|-------------------------|----------------------|--------------------|---------------|-------------------|
|                    |                     | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered<br>gross. | Registered<br>net. |               |                   |
| Brazilian.....     | 1                   | 3,511                           | 4,566                   | 5,472                | 3,523              | \$4,388.75    | 6,700             |
| British.....       | 975                 | 3,213,154                       | 3,955,960               | 5,008,787            | 3,141,154          | 3,907,157.75  | 3,440,406         |
| Chilean.....       | 47                  | 73,235                          | 119,157                 | 139,649              | 82,964             | 108,650.50    | 38,682            |
| Costa Rican.....   | 5                   | 601                             | 626                     | 660                  | 390                | 597.63        | 471               |
| Danish.....        | 66                  | 236,902                         | 287,474                 | 347,772              | 231,579            | 285,781.20    | 353,946           |
| Dutch.....         | 64                  | 220,244                         | 300,285                 | 339,003              | 218,748            | 267,577.87    | 271,968           |
| Finnish.....       | 2                   | 4,293                           | 4,281                   | 4,620                | 4,361              | 5,137.20      | 7,101             |
| French.....        | 45                  | 146,870                         | 160,767                 | 214,958              | 136,612            | 181,343.22    | 118,457           |
| German.....        | 13                  | 24,890                          | 30,905                  | 39,006               | 23,566             | 30,870.85     | 30,951            |
| Greek.....         | 5                   | 17,082                          | 18,618                  | 21,443               | 13,117             | 19,293.40     | 11,956            |
| Italian.....       | 22                  | 69,269                          | 85,180                  | 118,411              | 71,460             | 88,470.35     | 37,541            |
| Japanese.....      | 197                 | 789,122                         | 889,144                 | 1,168,865            | 774,627            | 969,315.65    | 981,295           |
| Mexican.....       | 6                   | 2,528                           | 2,742                   | 4,429                | 2,370              | 2,888.65      | 3,795             |
| Norwegian.....     | 139                 | 426,584                         | 509,875                 | 648,999              | 413,491            | 486,371.82    | 533,714           |
| Panamanian.....    | 6                   | 1,473                           | 1,495                   | 1,960                | 1,466              | 1,626.05      | 2,026             |
| Peruvian.....      | 58                  | 81,944                          | 155,960                 | 245,787              | 129,644            | 101,318.74    | 78,119            |
| Russian.....       | 4                   | 9,725                           | 11,279                  | 15,844               | 8,641              | 12,156.25     | 11,343            |
| Spanish.....       | 18                  | 44,914                          | 52,983                  | 67,656               | 43,281             | 58,035.24     | 69,039            |
| Swedish.....       | 32                  | 97,540                          | 146,708                 | 152,729              | 115,866            | 120,534.85    | 153,587           |
| United States..... | 1,078               | 3,839,806                       | 4,697,806               | 5,905,780            | 3,808,659          | 4,608,682.83  | 4,555,908         |
| Totals.....        | 2,783               | 9,303,687                       | 11,435,811              | 14,451,830           | 9,225,519          | 11,261,098.80 | 10,707,005        |

A comparison of the cargo statistics with the corresponding figures for the calendar year 1920 shows that the total amount of cargo handled through the Panama Canal in 1921 declined  $4\frac{1}{2}$  per cent. Cargo transported in American bottoms declined 17 per cent; French, 10 per cent; Spanish, 55 per cent; Peruvian, 34 per cent, and Chilean, 57 per cent. Cargo transported in British bottoms increased 4 per cent; Danish, 124 per cent; Dutch, 95 per cent; Swedish, 66 per cent; Norwegian,  $9\frac{1}{2}$  per cent; and Japanese, 28 per cent.

## Official Circular.

## Grass Fires.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., March 1, 1922.

To all concerned—Recently several small fires which started alongside the main road between Pedro Miguel and Gamboa on the east side, and Pedro Miguel and Culebra on the west side of the Canal, spread to adjoining cattle pastures and caused considerable damage to the pastures and necessitated a large amount of work to protect the cattle and get the fire under control.

It is directed that anyone having occasion to use the interior roads in the Canal Zone be careful not to start any grass fires by throwing lighted cigars, cigarettes, or matches into the dry grass along the highways.

M. L. WALKER, Acting Governor.

## Sale of Tugboat "Empire."

Sealed bids in triplicate will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., and also at the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, Canal Zone, not later than 10.30 a. m. on the 17th day of April, 1922, at which time they will be opened in public simultaneously in both offices, for the purchase of the seagoing tugboat *Empire*, 120 feet over-all length, located at Balboa, Canal Zone. Detailed information with photographs, if desired, and form of proposal (Circular No. 1471) may be had upon application to the offices of the General Purchasing Officer or the Chief Quartermaster. The Panama Canal reserves the right to reject any or all bids in its discretion.

## Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa.

For coal in large quantities as specified below, taken from alongside Cristobal Coaling Plant by vessels transiting the Canal:

(a) To vessels taking 1,200 tons or over;  
(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at \$10 per ton of 2,240 pounds.

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at \$10 per ton.

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 4 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

## Certificate.

By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 395.

PORT OF CRISTOBAL—continued.

| *ARRIVALS. |                |                        | *DEPARTURES. |                     |                            |
|------------|----------------|------------------------|--------------|---------------------|----------------------------|
| Date.      | Vessel.        | From—                  | Date.        | Vessel.             | For—                       |
| Mar. 3     | Norman Bridge. | Tampico.               | Mar. 4       | Macoris.            | French Line.               |
| Mar. 4     | Coronado       | Port Limon.            | Mar. 4       | Empress of Britain. | Canadian Pacific Line.     |
| Mar. 4     | James Timpson. | New York via wayports. | Mar. 4       | Tolosa              | United Fruit Co.           |
|            |                | High seas.             | Mar. 4       | Coronado            | Elders & Effies Line.      |
|            |                |                        | Mar. 4       | Norman Bridge       | Pan-American Petroleum Co. |
|            |                |                        |              |                     | Tampico.                   |
|            |                |                        |              |                     | Hayre via wayports.        |
|            |                |                        |              |                     | New York via wayports.     |
|            |                |                        |              |                     | New York via wayports.     |
|            |                |                        |              |                     | Kingston.                  |
|            |                |                        |              |                     | Tampico.                   |
|            |                |                        |              |                     | Valparaiso.                |
|            |                |                        |              |                     | Hongkong.                  |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
|            |                |                        |              |                     | Rakuyo Maru.               |
|            |                |                        |              |                     | Chinese Government.        |
|            |                |                        |              |                     | Toyo Kisen Kaisha.         |
|            |                |                        |              |                     | Hwah Ping.                 |
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# THE PANAMA CANAL RECORD

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Volume XV.

Balboa Heights, C. Z., March 15, 1922.

No. 31.

## Projects for Increasing the Dry Season Water Supply.

An investigation was made in February by the Chief Hydrographer and the Chief of Section of Surveys of the practicability of diverting into Gatun Lake the Indio River, which flows into the Caribbean about 20 miles west of the mouth of the Chagres. The project was found to be impracticable, primarily because of the lack of a suitable dam site on the Indio below its junction with the Rio Esterial, which runs between the upper reaches of the Indio and the watershed of the lake. The Esterial has about half the flow of the Indio and is not large enough to justify the cost of diverting it into the lake.

Diversion of the Indio into Gatun Lake was considered for the purpose of increasing the supply of water during the dry season. Alternative projects being considered by the Canal administration are the construction of a supplementary reservoir above Alhajuela, on the Chagres River beyond the limits of the lake, and of a dam west of Pedro Miguel Lock to incorporate within the lake area a part of the Rio Grande valley above Miraflores Lake. The Alhajuela project would give an additional storage of between 15 and 30 billion cubic feet (the present dry season storage between the 87- and 80-foot levels is 31.95 billion cubic feet) and would also furnish power for electrical development. The Pedro Miguel project, by decreasing the surges in Gaillard Cut resulting from drafts of water for lockages at Pedro Miguel, should make it possible to raise the maximum elevation to 88 feet and give an additional half foot available depth at low stages of the lake, which would increase the storage range from the present 7 feet to 8½ feet, or add about 6.7 billion cubic feet to the storage.

Decision has not been made as to which project, if either, will be recommended to Congress. Under present operating conditions there is no danger of a shortage which would interfere with traffic. Consideration of the extension of the water supply is with an eye to the future.

## Cuban Sugar to the Far East.

The steamship *Lord Sefton*, operated by the Universal Steam Navigation Company, passed through the Canal on March 5 with a cargo of 5,000 tons of sugar, from Nuevitas, Cuba, for Hongkong. On February 20 the *Cape Ortegat* made the transit with 7,400 tons shipped from Cuba to Japan.

During the calendar year 1921, 92,791 tons of sugar from the West Indies passed through the Canal, along with 250 tons shipped from the east coast of the United States. Of the total of 93,041 tons, 43,880 tons were shipped to the Far East, 26,140 tons to Australasia, and 22,741 tons to the west coast of Canada; 220 tons were shipped to the west coast of the United States and 60 tons to the west coast of South America.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, March 11, 1922.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.           | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                             | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.           |        | Panama Canal tonnage. |
|-----------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-----------------------------------|---------|-------|-------------------|---------------|----------------|------------------|--------|-----------------------|
|                 | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                   |         |       |                   |               |                | Nature.          | Tons.  |                       |
| Cauca           | 23               | 15.31 | 5              | 6.16  | 5                  | 14.37 | 5                | 16.53 | British      | Pacific Steam Navigation Co.      | 246.0   | 35.0  | 17.0              | Cristobal     | Champerico.    | General          | 1,119  | 1,589                 |
| Lombardia.      | 4                | 14.02 | 5              | 6.32  | 5                  | 14.52 | 5                | 16.03 | Swedish      | Royal Mail Steam Packet Co.       | 271.0   | 41.6  | 18.10             | New Orleans.  | Guayaquil      | General          | 2,129  | 2,359                 |
| Lochkarrie.     | 4                | 6.48  | 5              | 7.32  | 5                  | 15.50 | 5                | 17.02 | British      | Royal Mail Steam Packet Co.       | 485.4   | 62.3  | 27.7              | London.       | Vancouver      | General          | 9,346  | 10,802                |
| Texas           | 5                | 3.21  | 5              | 8.25  | 5                  | 16.52 | 5                | 17.46 | American     | United American Lines.            | 471.0   | 57.2  | 23.0              | Philadelphia. | Los Angeles.   | General          | 3,104  | 9,154                 |
| Bratsberg.      | 5                | 6.30  | 5              | 9.10  | 5                  | 18.07 | 5                | 19.27 | Norwegian.   | A. S. Borgestad.                  | 345.0   | 49.6  | 24.0              | Calharten.    | Vancouver.     | Sugar            | 4,806  | 4,263                 |
| Argyll.         | 5                | 6.35  | 5              | 9.18  | 5                  | 18.04 | 5                | 19.27 | French.      | Dutch Line.                       | 329.3   | 40.7  | 23.0              | Tampico.      | Santa Rosalia  | Fuel oil         | 3,800  | 3,141                 |
| Stanley Dollar. | 5                | 5.16  | 5              | 10.05 | 5                  | 19.28 | 5                | 20.48 | American     | Dollar Steamship Line.            | 288.8   | 44.6  | 21.6              | New York.     | Vancouver      | General          | 3,000  | 3,460                 |
| Lord Nelson.    | 5                | 6.43  | 5              | 11.20 | 5                  | 19.35 | 5                | 21.39 | British      | Occidental and Oriental S. N. Co. | 374.0   | 48.0  | 23.7              | Nuevitas.     | Hongkong.      | Sugar            | 5,000  | 4,631                 |
| Ansaldo San     |                  |       |                |       |                    |       |                  |       |              |                                   |         |       |                   |               |                |                  |        |                       |
| Giorgio III.    | 4                | 20.00 | 6              | 6.12  | 6                  | 13.08 | 6                | 20.30 | Italian      | Italian Line.                     | 392.6   | 51.0  | 16.7              | Genoa.        | Valparaiso     | General          | 1,403  | 5,907                 |
| City of Pekin.  | 5                | 18.05 | 6              | 7.15  | 6                  | 14.51 | 6                | 15.50 | British      | Pierman Lines, Ltd.               | 432.0   | 58.0  | 28.3              | New Orleans.  | Shanghai       | General          | 9,155  | 9,048                 |
| Lompe.          | 6                | 7.39  | 6              | 8.29  | 6                  | 16.05 | 6                | 17.33 | British      | C. T. Bowring & Co.               | 435.0   | 55.9  | 26.0              | Tampico.      | Ionique.       | Fuel oil         | 9,604  | 7,496                 |
| Willmar.        | 6                | 9.54  | 6              | 10.10 | 6                  | 17.07 | 6                | 19.08 | American     | Williams Line.                    | 386.0   | 52.0  | 19.0              | New York.     | Los Angeles.   | General          | 4,300  | 5,680                 |
| Jadden.         | 6                | 16.05 | 7              | 6.10  | 7                  | 14.30 | 7                | 15.40 | American     | Barber Line (S. B.)               | 410.5   | 54.2  | 27.3              | New York.     | Far East.      | General          | 8,368  | 7,406                 |
| Steel Ranger.   | 6                | 19.02 | 7              | 7.00  | 7                  | 15.13 | 7                | 16.20 | American     | United States Steel Products Co.  | 424.2   | 56.2  | 27.10             | Baltimore.    | Seattle.       | General          | 8,626  | 7,439                 |
| Raranga.        | 7                | 6.32  | 7              | 8.50  | 7                  | 16.26 | 7                | 17.23 | British      | Shaw, Saville & Albion Co.        | 478.0   | 63.0  | 22.0              | Cardiff.      | Wellington.    | Ballast          | 11,070 | 7,931                 |
| West Ira.       | 7                | 9.40  | 7              | 10.00 | 7                  | 17.50 | 8                | 18.32 | American     | T. J. Moore & Co. (S. B.)         | 410.0   | 51.0  | 25.0              | Galveston.    | Kobe.          | General          | 6,000  | 6,755                 |
| Santa Ana.      | 7                | 6.55  | 8              | 7.20  | 7                  | 18.32 | 8                | 19.45 | American     | W. R. Grace & Co.                 | 360.2   | 51.2  | 22.0              | New York.     | San Francisco. | General          | 1,023  | 5,776                 |
| Aysen.          | 3                | 13.55 | 8              | 6.13  | 8                  | 12.50 | 8                | 14.09 | Chilean      | Chilean Line.                     | 379.6   | 44.3  | 21.4              | Cristobal.    | Valparaiso.    | General          | 1,626  | 4,533                 |
| Santa Luisa.    | 7                | 18.04 | 8              | 7.35  | 8                  | 13.59 | 8                | 18.00 | American     | W. R. Grace & Co.                 | 360.2   | 51.6  | 20.7              | New York.     | Talcahuano     | General          | 1,908  | 5,691                 |
| Riculus.        | 3                | 11.12 | 8              | 7.25  | 8                  | 13.27 | 8                | 16.28 | Norwegian.   | A. O. Luntvig.                    | 341.6   | 48.2  | 21.0              | Barry.        | Honolulu.      | Coal             | 4,833  | 4,381                 |
| Edward Luck.    |                  |       |                |       |                    |       |                  |       |              |                                   |         |       |                   |               |                |                  |        |                       |
| Conchac.        | 8                | 7.15  | 8              | 8.50  | 8                  | 16.30 | 8                | 17.30 | American     | Loekenbush Line.                  | 456.0   | 57.0  | 25.0              | Philadelphia. | Los Angeles.   | General          | 5,769  | 8,543                 |
| Vesta.          | 8                | 22.18 | 9              | 6.45  | 9                  | 16.14 | 9                | 17.20 | British      | Gow Harrison & Co.                | 423.4   | 56.0  | 25.0              | New York.     | Valparaiso.    | Coal             | 6,885  | 6,199                 |
| City of Win-    |                  |       |                |       |                    |       |                  |       |              |                                   |         |       |                   |               |                |                  |        |                       |
| chester.        | 9                | 8.45  | 9              | 9.05  | 9                  | 18.39 | 9                | 19.45 | British      | Hall Steamship Line.              | 456.1   | 57.0  | 24.6              | New York.     | Auckland.      | General          | 5,721  | 8,783                 |
| Delano Maru.    | 9                | 20.42 | 10             | 6.25  | 10                 | 13.58 | 10               | 14.52 | Japanese.    | Nippon Yusen Kaisha.              | 429.0   | 56.0  | 28.4              | New York.     | Shanghai.      | General          | 7,311  | 7,249                 |
| Felix Taussig.  | 10               | 4.58  | 10             | 7.45  | 10                 | 16.25 | 10               | 17.25 | American     | Crowell & Thurlow.                | 395.0   | 55.0  | 26.0              | Baltimore.    | Los Angeles.   | General          | 5,793  | 6,329                 |
| Grace Dollar.   | 9                | 18.10 | 10             | 9.05  | 10                 | 16.17 | 10               | 17.17 | British      | Canadian Robert Dollar Line.      | 412.4   | 55.8  | 27.5              | New York.     | Shanghai.      | General          | 8,852  | 7,118                 |
| Cremona.        | 10               | 14.51 | 10             | 6.37  | 11                 | 14.58 | 11               | 16.10 | British      | Hain Steamship Co.                | 400.1   | 52.3  | 24.0              | Cardiff.      | Wellington.    | Coal             | 6,040  | 5,774                 |
| Maple Branch.   | 11               | 3.08  | 11             | 7.00  | 11                 | 17.11 | 11               | 18.05 | British      | F. and W. Watson.                 | 400.0   | 52.0  | 20.0              | London.       | Guayaquil      | General          | 1,920  | 5,618                 |
| San Juan.       | 6                | 15.45 | 11             | 9.40  | 11                 | 17.11 | 12               | 9.20  | American     | Pacific Mail Steamship Co.        | 283.0   | 37.0  | 16.7              | Cristobal.    | San Francisco. | General          | 611    | 2,379                 |
| Rickwood.       | 11               | 6.13  | 11             | 12.29 | 11                 | 19.32 | 11               | 20.47 | American     | McAllister Brothers (S. B.)       | 435.0   | 56.0  | 24.10             | Texas City.   | Bahia.         | Oil              | 8,000  | 7,642                 |
| Tydeus.         | 11               | 7.00  | 11             | 13.05 | 11                 | 20.47 | 11               | 21.54 | British      | Ocean Steamship Co.               | 450.0   | 54.1  | 27.6              | New York.     | Yokohama.      | General and iron | 7,373  | 7,578                 |

\* Tin plates, steel and general.

\* Tin plates, steel and general.

\* Tin plates, steel and general.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| THROUGH THE CANAL            |            |        |       |                              |        |       |       |                              |       |       |        |          |           |        |         |           |
|------------------------------|------------|--------|-------|------------------------------|--------|-------|-------|------------------------------|-------|-------|--------|----------|-----------|--------|---------|-----------|
| North American Steamship Co. |            |        |       | North American Steamship Co. |        |       |       | North American Steamship Co. |       |       |        |          |           |        |         |           |
|                              | 5          | 14     | 00    | 5                            | 14     | 00    | 5     | 14                           | 00    | 5     | 14     | 00       |           |        |         |           |
| North American               | 4          | 18     | 30    | 5                            | 6      | 42    | 5     | 6                            | 42    | 5     | 6      | 42       |           |        |         |           |
| Laura C. Hall                | 3          | 23     | 40    | 5                            | 6      | 21    | 5     | 15                           | 15    | 5     | 15     | 15       |           |        |         |           |
| Wytheville                   | 4          | 21     | 00    | 5                            | 7      | 50    | 5     | 14                           | 52    | 5     | 15     | 28       |           |        |         |           |
| Arwa                         | 5          | 3      | 40    | 5                            | 3      | 01    | 5     | 16                           | 05    | 5     | 15     | 05       |           |        |         |           |
| Hualaga                      | 5          | 6      | 00    | 5                            | 10     | 45    | 5     | 17                           | 55    | 5     | 17     | 55       |           |        |         |           |
| Nyuaza                       | 4          | 22     | 30    | 5                            | 11     | 35    | 5     | 19                           | 05    | 5     | 15     | 40       |           |        |         |           |
| San Juan                     | 6          | 2      | 00    | 6                            | 8      | 05    | 6     | 15                           | 11    | 9     | 40     | American |           |        |         |           |
| Acapulca                     | 6          | 7      | 00    | 6                            | 8      | 11    | 6     | 15                           | 18    | 7     | 15     | 00       | British   |        |         |           |
| San Juan                     | 6          | 15     | 20    | 7                            | 6      | 46    | 7     | 14                           | 04    | 7     | 15     | 00       | British   |        |         |           |
| San Francisco                | 7          | 2      | 00    | 7                            | 7      | 33    | 7     | 13                           | 09    | 8     | 15     | 00       | Norwegian |        |         |           |
| Granos                       | 7          | 6      | 00    | 7                            | 9      | 05    | 7     | 16                           | 33    | 7     | 20     | 20       | British   |        |         |           |
| Ortega                       | 7          | 7      | 30    | 7                            | 9      | 51    | 7     | 17                           | 25    | 7     | 18     | 05       | American  |        |         |           |
| Henry S. Grove               | 7          | 7      | 30    | 7                            | 9      | 51    | 7     | 17                           | 25    | 7     | 18     | 05       | American  |        |         |           |
| Rimutaka                     | 7          | 10     | 40    | 8                            | 6      | 46    | 8     | 14                           | 20    | 8     | 20     | 05       | British   |        |         |           |
| 2-13 14 32                   | 8          | 7      | 08    | 8                            | 7      | 08    | 8     | 14                           | 20    | 8     | 20     | 05       | British   |        |         |           |
| Solotia                      | 8          | 14     | 00    | 9                            | 6      | 53    | 9     | 14                           | 04    | 9     | 14     | 04       | British   |        |         |           |
| Manavi                       | 8          | 15     | 00    | 9                            | 8      | 52    | 9     | 14                           | 04    | 9     | 14     | 04       | British   |        |         |           |
| Panama                       | 9          | 3      | 40    | 9                            | 13     | 08    | 9     | 8                            | 52    | 9     | 14     | 04       | American  |        |         |           |
| Colonia                      | 9          | 14     | 25    | 9                            | 13     | 04    | 9     | 13                           | 04    | 9     | 20     | 26       | 11        | 7      | 07      | British   |
| Memnon                       | 9          | 14     | 25    | 9                            | 13     | 08    | 9     | 22                           | 34    | 10    | 11     | 11       | 12        | 06     | British |           |
| Australian                   | 9          | 23     | 30    | 10                           | 6      | 58    | 10    | 14                           | 11    | 10    | 14     | 11       | 10        | 14     | 11      | French    |
| Saint Joseph                 | 9          | 23     | 30    | 10                           | 7      | 47    | 10    | 15                           | 50    | 12    | 14     | 55       | 12        | 14     | 55      | American  |
| Nereus                       | 2-26 22 30 | 10     | 8     | 59                           | 11     | 12    | 10    | 14                           | 20    | 12    | 15     | 00       | 12        | 15     | 00      | American  |
| Jamaica                      | 10         | 11     | 55    | 10                           | 13     | 26    | 10    | 20                           | 40    | 12    | 15     | 00       | 12        | 15     | 00      | American  |
| La Brea                      | 10         | 11     | 00    | 11                           | 7      | 50    | 11    | 13                           | 50    | 11    | 13     | 50       | 11        | 13     | 50      | Dutch     |
| Haarlem                      | 10         | 14     | 30    | 11                           | 7      | 50    | 11    | 16                           | 25    | 11    | 16     | 25       | 11        | 16     | 25      | Dutch     |
| Westmeath                    | 10         | 19     | 00    | 11                           | 9      | 07    | 11    | 17                           | 40    | 12    | 19     | 45       | 12        | 19     | 45      | British   |
| Salma City                   | 11         | 4      | 30    | 11                           | 9      | 26    | 11    | 18                           | 30    | 12    | 19     | 45       | 12        | 19     | 45      | American  |
| Agadir                       | 11         | 7      | 00    | 11                           | 11     | 01    | 11    | 18                           | 40    | 12    | 6      | 25       | 12        | 6      | 25      | British   |
| La Habra A. Mc-              | 3          | 0      | 05    | 11                           | 11     | 41    | 11    | 19                           | 30    | 11    | 19     | 30       | 11        | 19     | 30      | Norwegian |
| William A. Mc-               | 11         | 11     | 41    | 11                           | 19     | 30    | 11    | 19                           | 30    | 11    | 19     | 30       | 11        | 19     | 30      | Norwegian |
| Crowell & Thurlow            | 395        | 0      | 55    | 0                            | 26     | 0     | 395   | 0                            | 55    | 0     | 26     | 0        | 395       | 0      | 55      | 0         |
| North American Steamship Co. | 251        | 0      | 43    | 6                            | 20     | 2     | 251   | 0                            | 43    | 6     | 20     | 2        | 251       | 0      | 43      | 6         |
| Farber Metal; Corp.          | 81         | 0      | 26    | 0                            | 9      | 0     | 81    | 0                            | 26    | 0     | 9      | 0        | 81        | 0      | 26      | 0         |
| Barber Line (S. B.)          | 395        | 5      | 55    | 0                            | 21     | 0     | 395   | 5                            | 55    | 0     | 21     | 0        | 395       | 5      | 55      | 0         |
| Puget Sound                  | 480        | 0      | 60    | 0                            | 24     | 6     | 480   | 0                            | 60    | 0     | 24     | 6        | 480       | 0      | 60      | 0         |
| Shanghai                     | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Auckland                     | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Callao                       | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Seattle                      | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| San Francisco                | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Champerico                   | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Louique                      | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Guayaquil                    | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Valparaiso                   | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Portland                     | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Dunedin                      | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Balboa                       | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Guayaquil                    | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Sea                          | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| San Francisco                | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Puget Sound                  | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Corral                       | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Vancouver                    | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| San Diego                    | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Tumaco                       | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| San Francisco                | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Talcahuano                   | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Avonmouth                    | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Wellington                   | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Seattle                      | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Valparaiso                   | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Toopilla                     | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Everett                      | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| Boston                       | 360        | 0      | 47    | 0                            | 20     | 0     | 360   | 0                            | 47    | 0     | 20     | 0        | 360       | 0      | 47      | 0         |
| General                      | 3,274      | 2,444  | 1,571 | 3,274                        | 2,444  | 1,571 | 3,274 | 2,444                        | 1,571 | 3,274 | 2,444  | 1,571    | 3,274     | 2,444  | 1,571   | 3,274     |
| Coffee                       | 4,733      | 6,841  | 4,758 | 4,733                        | 6,841  | 4,758 | 4,733 | 6,841                        | 4,758 | 4,733 | 6,841  | 4,758    | 4,733     | 6,841  | 4,758   | 4,733     |
| Cold storage, gen.           | 7,000      | 10,053 | 7,504 | 7,000                        | 10,053 | 7,504 | 7,000 | 10,053                       | 7,504 | 7,000 | 10,053 | 7,504    | 7,000     | 10,053 | 7,504   | 7,000     |
| General                      | 1,042      | 4,314  | 2,386 | 1,042                        | 4,314  | 2,386 | 1,042 | 4,314                        | 2,386 | 1,042 | 4,314  | 2,386    | 1,042     | 4,314  | 2,386   | 1,042     |
| Lumber, general              | 5,761      | 6,249  | 4,434 | 5,761                        | 6,249  | 4,434 | 5,761 | 6,249                        | 4,434 | 5,761 | 6,249  | 4,434    | 5,761     | 6,249  | 4,434   | 5,761     |
| Coffee, etc.                 | 1,838      | 2,379  | 706   | 1,838                        | 2,379  | 706   | 1,838 | 2,379                        | 706   | 1,838 | 2,379  | 706      | 1,838     | 2,379  | 706     | 1,838     |
| Coffee, etc.                 | 1,038      | 1,273  | 433   | 1,038                        | 1,273  | 433   | 1,038 | 1,273                        | 433   | 1,038 | 1,273  | 433      | 1,038     | 1,273  | 433     | 1,038     |
| Coffee, cocoa                | 757        | 2,036  | 1,457 | 757                          | 2,036  | 1,457 | 757   | 2,036                        | 1,457 | 757   | 2,036  | 1,457    | 757       | 2,036  | 1,457   | 757       |
| Coffee, cocoa                | 3,007      | 8,345  | 4,998 | 3,007                        | 8,345  | 4,998 | 3,007 | 8,345                        | 4,998 | 3,007 | 8,345  | 4,998    | 3,007     | 8,345  | 4,998   | 3,007     |
| General                      | 3,407      | 5,735  | 4,688 | 3,407                        | 5,735  | 4,688 | 3,407 | 5,735                        | 4,688 | 3,407 | 5,735  | 4,688    | 3,407     | 5,735  | 4,688   | 3,407     |
| Cold storage, gen.           | 4,450      | 9,159  | 6,883 | 4,450                        | 9,159  | 6,883 | 4,450 | 9,159                        | 6,883 | 4,450 | 9,159  | 6,883    | 4,450     | 9,159  | 6,883   | 4,450     |
| General                      | 254        | 1,357  | 884   | 254                          | 1,357  | 884   | 254   | 1,357                        | 884   | 254   | 1,357  | 884      | 254       | 1,357  | 884     | 254       |
| Cristobal                    | 2,900      | 6,015  | 4,281 | 2,900                        | 6,015  | 4,281 | 2,900 | 6,015                        | 4,281 | 2,900 | 6,015  | 4,281    | 2,900     | 6,015  | 4,281   | 2,900     |
| General                      | 5,705      | 5,450  | 3,459 | 5,705                        | 5,450  | 3,459 | 5,705 | 5,450                        | 3,459 | 5,705 | 5,450  | 3,459    | 5,705     | 5,450  | 3,459   | 5,705     |
| General                      | 7,511      | 7,027  | 5,338 | 7,511                        | 7,027  | 5,338 | 7,511 | 7,027                        | 5,338 | 7,511 | 7,027  | 5,338    | 7,511     | 7,027  | 5,338   | 7,511     |
| General                      | 6,248      | 5,979  | 4,170 | 6,248                        | 5,979  | 4,170 | 6,248 | 5,979                        | 4,170 | 6,248 | 5,979  | 4,170    | 6,248     | 5,979  | 4,170   | 6,248     |
| Navy stores                  | 15         | 15     | 15    | 15                           | 15     | 15    | 15    | 15                           | 15    | 15    | 15     | 15       | 15        | 15     | 15      | 15        |
| General                      | 74         | 1,187  | 622   | 74                           | 1,187  | 622   | 74    | 1,187                        | 622   | 74    | 1,187  | 622      | 74        | 1,187  | 622     | 74        |
| General                      | 7,159      | 4,765  | 3,660 | 7,159                        | 4,765  | 3,660 | 7,159 | 4,765                        | 3,660 | 7,159 | 4,765  | 3,660    | 7,159     | 4,765  | 3,660   | 7,159     |
| General                      | 4,100      | 4,759  | 3,660 | 4,100                        | 4,759  | 3,660 | 4,100 | 4,759                        | 3,660 | 4,100 | 4,759  | 3,660    | 4,100     | 4,759  | 3,660   | 4,100     |
| General                      | 6,000      | 7,589  | 5,448 | 6,000                        | 7,589  | 5,448 | 6,000 | 7,589                        | 5,448 | 6,000 | 7,589  | 5,448    | 6,000     | 7,589  | 5,448   | 6,000     |
| Cold storage, gen.           | 6,500      | 7,871  | 5,826 | 6,500                        | 7,871  | 5,826 | 6,500 | 7,871                        | 5,826 | 6,500 | 7,871  | 5,826    | 6,500     | 7,871  | 5,826   | 6,500     |
| Lumber, general              | 1,093      | 7,053  | 5,051 | 1,093                        | 7,053  | 5,051 | 1,093 | 7,053                        | 5,051 | 1,093 | 7,053  | 5,051    | 1,093     | 7,053  | 5,051   | 1,093     |
| General                      | 6,532      | 4,528  | 4,528 | 6,532                        | 4,528  | 4,528 | 6,532 | 4,528                        | 4,528 | 6,532 | 4,528  | 4,528    | 6,532     | 4,528  | 4,528   | 6,532     |
| Lumber                       | 6,532      | 4,528  | 4,528 | 6,532                        | 4,528  | 4,528 | 6,532 | 4,528                        | 4,528 | 6,532 | 4,528  | 4,528    | 6,532     | 4,528  | 4,528   | 6,532     |

Coffee wheat oil and lead.

water than 12 are postmenstrual.

Lumber, salmon, and general.

Collier

6

## PORT OF CRISTOBAL.

## \*DEPARTURES.

| *ARRIVALS. |            |                                 |                         | From—  |                        | Vessel.                         |                     | Line. |  | Date. |  | Vessel. |  | Line. |  | For— |  |
|------------|------------|---------------------------------|-------------------------|--------|------------------------|---------------------------------|---------------------|-------|--|-------|--|---------|--|-------|--|------|--|
| Mar. 5     | Atenas     | United Fruit Co.                | New Orleans via Habana. | Mar. 5 | Atenas                 | United Fruit Co.                | Bocas del Toro.     |       |  |       |  |         |  |       |  |      |  |
| Mar. 5     | Sorta      | Pacific Steam Navigation Co.    | Hull via wayports.      | Mar. 7 | James Timpson.         | The Resolved Corp.              | New York via Haiti. |       |  |       |  |         |  |       |  |      |  |
| Mar. 6     | Heredia    | United Fruit Co.                | New Orleans             | Mar. 7 | Panama                 | Panama Railroad Steamship Line. | Kingston            |       |  |       |  |         |  |       |  |      |  |
| Mar. 6     | Advance    | Panama Railroad Steamship Line. | Puerto Colombia         | Mar. 7 | Sorta                  | Pacific Steam Navigation Co.    | Port Limon.         |       |  |       |  |         |  |       |  |      |  |
| Mar. 6     | Stuyvesant | Royal Netherlands W. I. Mail.   | Amsterdam via wayports. | Mar. 8 | Stuyvesant.            | Royal Netherlands W. I. Mail.   | Caracena.           |       |  |       |  |         |  |       |  |      |  |
|            |            |                                 |                         | Mar. 8 | Killierig <sup>4</sup> | Lindsay, Swann & Hunter         |                     |       |  |       |  |         |  |       |  |      |  |

(Continued on page 408, column 2.)



### Executive Order.—Crew Lists.

#### Amending Further the Provisions of the Executive Order of August 8, 1918, Concerning Travel Between the United States and Neighboring Countries, and Authorizing the Requirement of Crew Lists.

By virtue of the authority vested in me by the Act of Congress<sup>1</sup> approved the twenty-second day of May, one thousand, nine hundred and eighteen, entitled "An Act to Prevent in Time of War Departure from and Entry into the United States Contrary to the Public Safety," and with reference to the Presidential Proclamation<sup>2</sup> and Executive Order<sup>3</sup> of August eight, one thousand, nine hundred and eighteen, adopted in pursuance thereof, and the Act of Congress of March 2, 1921, entitled, "An Act making appropriations for the Diplomatic and Consular Service for the fiscal year ending June 30, 1922," I hereby prescribe the following amendments to said Executive Order:

\* \* \* \* \*

#### II.

1. Masters of vessels of all nationalities sailing for a port of the United States of America or of any of its possessions, except the Panama Canal Zone, must submit for visa a list containing the names of all the alien members of the vessel's crew to the American consular officer at the port from which the vessel commences its voyage. If there is no American consular officer stationed at that port, the crew list should be submitted at the first port of call (if the vessel touches at any other port) where an American consular officer is located. This does not refer to consular agents, who are not authorized to visa crew lists.

2. When a vessel sails from a port where no American Consul is stationed, but which is so near to an American Consulate that unreasonable delay and serious loss would not result from referring the crew list to such Consulate, it should be referred thereto for visa.

3. The visaed crew list must be presented to an officer of the immigration service upon the arrival of the vessel at a port of the United States, before any alien member of the crew can be allowed to land.

4. If an alien seaman whose name is not included in a visaed crew list arrives at a port of the United States he shall not be allowed to land except upon the permission of the Secretary of State.

This order replaces the Order (No. 3505) of June 25, 1921,<sup>4</sup> "Amending the Provisions of the Executive Order of August 8, 1918,<sup>3</sup> concerning Travel between the United States and Neighboring Countries, and Authorizing the Requirement of Crew Lists."

WARREN G. HARDING.

THE WHITE HOUSE,  
February 1, 1922.

<sup>1</sup>Published as Panama Canal Circular No. 600-49.

<sup>2</sup>Published as Panama Canal Circular No. 601-79.

<sup>3</sup>Published as Panama Canal Circular No. 601-80.

<sup>4</sup>Published as Panama Canal Circular No. 601-123.

The Executive Order above, dated February 1, 1922, has been published as Panama Canal Circular No. 601-129.

#### Note Concerning Executive Order of February 1, 1922, on Crew Lists.

The purpose of the above order is presumably to assist in the enforcement of the immigration laws of the United States. The specific exemption of the Canal Zone ports in paragraph 1 of Section II makes the order inapplicable to vessels bound for Canal Zone ports or for passage through the Canal except as they may also be on their way to other United States ports, in which case the immigration officers at those ports will see to the compliance with the order. Names of aliens who ship in ports of the Canal Zone on vessels sailing therefrom to the ports of the continental United States or its insular possessions must appear on crew lists visaed by consular officers of the United States at Panama City or Colon, or by the Shipping Commissioner, or Deputy Shipping Commissioner of the Canal Zone, in accordance



with requirements of Executive Order of October 18, 1921, published as Panama Canal Circular No. 601-125.

The order of February 1, 1922, does not change the requirements of The Panama Canal of 2 copies of a complete crew list, Americans as well as aliens (Form 1509), as set forth in Notice to Steamship Lines issued by the Governor under date of October 22, 1919.

### Notice to Mariners.—Aids to Mariners—Buenaventura Harbor.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., March 9, 1922.

Five Swedish buoys have been established at Buenaventura in following positions, which must be taken as approximate, bearing having been taken after sunset:

No. 1 Buoy, showing a white flash every 3 seconds, about  $1\frac{1}{2}$  miles south of Vigia de San Pablo in 4 fathoms, with Culo de Barca bearing N.  $42^{\circ}$  W., distant  $2\frac{1}{2}$  miles.

No. 2 Buoy, showing red flash every 3 seconds, about 4 cables north of Soldado Point in 10 fathoms.

No. 3 Buoy, showing a white flash every 3 seconds, on the 3-fathom patch, with Limones Point bearing N.  $77^{\circ}$  E., distant  $1\frac{3}{4}$  miles.

No. 4 Buoy, showing a white flash every 3 seconds on to Tomes Shoals, replacing the boiler buoy which formerly existed.

No. 5 Buoy, showing a red flash every 3 seconds on edge of mud flats off the town and about 4 cables distant from the new mole bearing N.  $30^{\circ}$  E., to be kept on starboard hand when entering and on port hand, leaving.

All bearings are magnetic. Buoys were established March 6, and are painted red. The white lights are visible about 8 miles and red lights about 6 miles.

JAY J. MORROW,  
Governor.

### Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended March 13:

Motor ship *Laura C. Hall*, clean and paint bottom; straighten tail shafts and fit new propellers; rebabbitt strut bearings; renew railing and planking as directed, etc.; tugs *Tavernilla*, connect up dynamo; renew gaskets in all deckhouse doors; repair pipe, etc.; *Favorite*, manufacture and install new rudder; repair dynamo and brake band on after winch; repair hull on launch, etc.; steamships *Advance*, renew rods on feed and sanitary pumps; manufacture dynamo crosshead bushings; plane crosshead; braze expansion band; build foundation for anchor, etc.; *Acajulla*, turn up feed pump rams; fit cylinder to winch; repair Venetian windows; repair and rebrick galley range; overhaul sanitary piping; renew steering chain links; calk main deck; renew part of superstructure deck; *Rimutaka*, manufacture new condenser circulating pipe; *Manavi*, install glass on port and side light; repair accommodation ladder, No. 2 starboard derrick, and between deck hatches; repair specie room door and hot water tank in pantry; *Achilles*, remetal 1 set of M. P. crank-pin brasses; repair steam heating system; clean boilers; clear scuppers; repair stanchions and railings on forecandle deck; paint boot topping, etc.; *Gen. G. W. Goethals*, calk passenger deck; repair fire line; turn up H. P. bull ring and manufacture 8 snap rings, etc.; *Columbia*, *Heredia*, *Jamaica*, *Thomas L. Wand*, *St. Joseph*, *U. S. S. Galveston*, U. S. mine planter *Graham*, barge *Darien*, launch *Gold Star*, minor repairs.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending March 11, 1922.

| Name of vessel. | Line or charterer.                | Arrived.      | Departed.     | Cargo—     |        |
|-----------------|-----------------------------------|---------------|---------------|------------|--------|
|                 |                                   |               |               | Discharged | Laded. |
|                 |                                   |               |               | Tons.      | Tons.  |
| Cauca.....      | Pacific Steam Navigation Co.....  | March 5.....  | March 5.....  | .....      | 2      |
| Santa Ana.....  | Pacific Mail Steamship Co.....    | March 7.....  | March 8.....  | 13         | 3      |
| Manavi.....     | Pacific Steam Navigation Co.....  | March 8.....  | March 9.....  | 17         | .....  |
| Colombia.....   | Pacific Mail Steamship Co.....    | March 9.....  | March 9.....  | 15         | .....  |
| Jamaica.....    | Pacific Steam Navigation Co.....  | March 10..... | March 10..... | 1          | .....  |
| San Juan.....   | Pacific Mail Steamship Co.....    | March 11..... | .....         | .....      | 26     |
| La Brea.....    | Union Oil Company of California.. | March 9.....  | March 11..... | 181        | .....  |

# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending March 11, 1922.

| Name of vessel.     | Line or charterer.             | Arrived.    | Departed.   | Cargo—     |        |
|---------------------|--------------------------------|-------------|-------------|------------|--------|
|                     |                                |             |             | Discharged | Laded. |
|                     |                                |             |             | Tons.      | Tons.  |
| Bologna             | Italian Line                   |             | February 26 |            | 1,215½ |
| Ares                | Royal Netherlands W. I. Mail   |             | February 27 |            | 15     |
| Zacapa              | United Fruit Co.               | February 26 | February 27 | (¹)        | 60     |
| Norwegian           | Leyland Line                   | February 26 | February 28 | 578        | 267    |
| Urubamba            | Peruvian Line                  |             | February 28 |            | 599    |
| Santa Teresa        | Grace Line                     | February 27 | February 27 | (¹)        | 117    |
| Cartago             | United Fruit Co.               | February 27 | February 28 | 1,438      | ² 1    |
| Jamaica             | Pacific Steam Navigation Co.   | February 27 | February 28 | 40½        | 178    |
| Cliona              | Anglo-Saxon Petroleum Co.      | February 28 | March 1     | 7,300      | (²)    |
| Venezuela           | Royal Netherlands W. I. Mail   | February 28 | March 1     | (¹)        | 1,628  |
| Theben              | Kosmos Line                    | February 28 | March 2     | 205        | (²)    |
| Macoris             | French Line                    | February 28 | March 4     | 123        | 91     |
| San Gil             | United Fruit Co.               | March 1     | March 1     | 20         | 108    |
| Panama              | Panama Railroad Steamship Line | March 1     |             | 2,071      |        |
| Occidental          | Texas Oil Co.                  | March 1     | March 2     | 8,037      | (²)    |
| Salvador            | Pacific Steam Navigation Co.   | March 1     | March 3     | 212        | (²)    |
| Zacapa              | United Fruit Co.               | March 2     | March 2     | (¹)        | 7      |
| Norman Bridge       | Huasteca Petroleum Co.         | March 3     | March 4     | 6,000      | (²)    |
| Helder              | Royal Netherlands W. I. Mail   | March 3     | March 4     | 222        | 14     |
| Montana             | French Line                    | March 3     | March 4     | 23         | 83     |
| Aysen               | Chilean Line                   | March 3     | March 3     | 64         |        |
| Tolosa              | United Fruit Co.               | March 3     | March 4     | 276        | ½      |
| Almagro             | Pacific Steam Navigation Co.   | March 3     | March 4     | 133        | 114    |
| Lochkatrine         | Pacific Steam Navigation Co.   | March 4     | March 4     | 57         |        |
| Gen. O. H. Ernst    | Panama Railroad Steamship Line | March 4     | March 4     | 293        |        |
| Coronado            | Elders & Fyffes, Ltd           | March 4     | March 4     | 10½        | 1      |
| Lochkatrine         | Pacific Steam Navigation Co.   | March 5     | March 5     |            | 44     |
| Atenas              | United Fruit Co.               | March 5     | March 5     | (¹)        | 105    |
| Huallaga            | Peruvian Line                  | March 5     | March 5     | 1,042      |        |
| Laura C. Hall       | Pacific Metals Corporation     | March 5     | March 5     | 26         |        |
| Sorata              | Pacific Steam Navigation Co.   | March 5     | March 7     | 52         | 540    |
| Panama              | Panama Railroad Steamship Line | March 5     | March 7     |            | 2,070  |
| Acajutla            | Pacific Steam Navigation Co.   | March 6     | March 6     | 1,038      |        |
| Santa Ana           | Pacific Mail Steamship Co.     | March 6     | March 7     | 206        | 436    |
| Heredia             | United Fruit Co.               | March 6     | March 8     | 1,027      | 375½   |
| Aysen               | Chilean Line                   | March 6     | March 8     |            | 626    |
| Advance             | Panama Railroad Steamship Line | March 6     | March 11    | 750        | 118    |
| San Juan            | Pacific Mail Steamship Co.     | March 6     | March 11    | 1,841      | 642    |
| Stuyvesant          | Royal Netherlands W. I. Mail   | March 7     | March 8     | 82         | (²)    |
| Ortega              | Pacific Steam Navigation Co.   | March 7     | March 7     | 34         | (²)    |
| Manavi              | Pacific Steam Navigation Co.   | March 9     | March 9     | 254        |        |
| Atenas              | United Fruit Co.               | March 9     | March 9     | 1          | ½      |
| Colombia            | Pacific Mail Steamship Co.     | March 9     | March 10    | 617        | 379    |
| Metapan             | United Fruit Co.               | March 9     | March 10    | 27         | 549    |
| Calamares           | United Fruit Co.               | March 10    | March 11    | 360        | 338    |
| Achilles            | Panama Railroad Steamship Line | March 10    |             | 12,462½    |        |
| Darien              | Panama Railroad Steamship Line | March 10    |             | 7,233      |        |
| Saint Joseph        | French Line                    | March 10    |             | 39         |        |
| Jamaica             | Pacific Steam Navigation Co.   | March 10    |             | 57         |        |
| Richconcal          | McAllister Bros                | March 11    | March 11    | 1,200      | (²)    |
| Stuyvesant          | Royal Netherlands W. I. Mail   | March 11    | March 11    | 12         | 1,096  |
| Gen. G. W. Goethals | Panama Railroad Steamship Line | March 11    |             | 2,292      |        |
| San Benito          | United Fruit Co.               | March 11    | March 11    | 3          | 378    |

¹ No cargo discharged.

² Case.

³ No cargo laded.

## Automobiles and Motorcycles.

The Chief of the Division of Civil Affairs has authorized the following:

At the end of December, 1921, there were 2,113 automobiles and trucks and 392 motorcycles licensed in the Canal Zone, as compared with 1,811 and 353, respectively, on December 31, 1920.

Automobile licenses are divided into 3 classes: For pleasure only; for hacking, or carrying passengers for hire; and for trucking. Of the 2,113 automobile and truck licenses, 658 were for official cars belonging to The Panama Canal, the Panama Railroad Company, and the United States Army and Navy, and 36 were reciprocal licenses for official cars belonging to the Republic of Panama, as compared with 623 and 28, respectively, on December 31, 1920. Of the 1,419 remaining, 556 were personal licenses, 100 hacking licenses, and 9 trucking licenses, issued to residents

of the Canal Zone, as compared with 450, 49, and 2, respectively, on December 31, 1920; 127 and 78 were reciprocal personal licenses issued to residents of Panama and Colon, respectively; and 424 and 125 were reciprocal commercial licenses issued to persons living in Panama and Colon, respectively.

The reciprocal automobile licenses of all classes in effect at the end of December, 1921, including official licenses, totaled 813, as compared with 687 on December 31, 1920. Of the 549 reciprocal commercial licenses above mentioned, 481 were for hacking, or carrying passengers for hire, and 68 for trucking.

Of the 392 motorcycle licenses, 223 were for official machines belonging to the United States, and 1 was a reciprocal license for an official machine belonging to the Republic of Panama. Of the 168 remaining, 146 were personal licenses issued to residents of the Canal Zone, 17 reciprocal personal licenses issued to residents of the city of Panama, and 5 reciprocal personal licenses issued to residents of Colon. On December 31, 1920, there were 353 motorcycles licensed in the Canal Zone, of which 203 were official licenses for machines owned by the United States, 1 was a reciprocal license for a machine owned by the Republic of Panama, 128 were personal licenses issued to residents of the Canal Zone, 13 reciprocal personal licenses issued to residents of the city of Panama, and 8 reciprocal licenses issued to residents of Colon.

### Partial Eclipse of Sun, Visible on the Isthmus.

The Chief Hydrographer advises that there will be an annular eclipse of the sun at 6.20 a. m., approximately sunrise, on March 28, 1922. The sun will rise at about the middle of the period of partial eclipse, and will be completely out of the obstructed path at about 7.20 a. m.

### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective March 1, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.20 |
| Brass, sheet, average.....                                        | Lb.            | .29    |
| Bronze, Tobin, average.....                                       | Lb.            | .25    |
| Gasoline, motor grade.....                                        | Gal.           | .40    |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .11    |
| Oakum, Navy, unspun.....                                          | Lb.            | .14    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Pbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .51    |
| Oil, burning.....                                                 | Gal.           | 1.06   |
| Oil, engine, gas, in barrels.....                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .675   |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | 1.04   |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .55    |
| Oil, kerosene, in drums.....                                      | Gal.           | .20    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .99    |
| Paint, lead, white, dry.....                                      | Lb.            | .09    |
| Paint, lead, white, in oil.....                                   | Lb.            | .09    |
| Paint, zinc, white, dry.....                                      | Lb.            | .20    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .20    |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .09    |
| Soda, ash.....                                                    | Lb.            | .03    |
| Waste, cotton, colored.....                                       | Lb.            | 175    |
| Waste, cotton, white.....                                         | Lb.            | .20    |

### Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

### Sale of Cattle.

Grade Holstein bull calves 1 to 3 months old from registered sires. Also grade Hereford and Durham bulls and heifers 6 months to 2 years old. Sales will be made upon first satisfactory offer. For further information inquire Superintendent, Cattle Industry, Room 269, Administration Building, Balboa Heights.



### Invitation for Proposals for Furnishing Honey.

Sealed bids will be received in the office of General Manager, Commissary Division, Cristobal, until 4 p. m. March 20, and then opened, for supplying the Commissary Division with best grade extracted Panama honey, light color, put up in sealed milk bottles, pint size, cost of bottle to be included in bid, delivered at any retail commissary.

Bids should state fully the total quantity of honey which the bidder will be in position to supply monthly until further notice.

Offers will also be accepted for comb honey, bidder to indicate quantity of this item offered and likely to be available at the price quoted, and should state exact size and weight of comb.

For the information of bidders, Commissary Division requirements are estimated at 400 pints extracted honey, and 300 pounds comb honey per month. This is an estimate only, and the Commissary Division will not be bound in any way by these figures. Awards will be placed for greater or lesser quantities as the case may be, based on sales.

Bids must be inclosed in a sealed envelope, addressed to "General Manager, Commissary Division, Cristobal," and marked "Proposal for furnishing honey, to be opened March 21."

The Commissary Division reserves the right to reject any or all bids.

### Sale of Tugboat "Empire."

Sealed bids in triplicate will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., and also at the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, Canal Zone, not later than 10.30 a. m. on the 17th day of April, 1922, at which time they will be opened in public simultaneously in both offices, for the purchase of the seagoing tugboat *Empire*, 120 feet over-all length, located at Balboa, Canal Zone. Detailed information with photographs, if desired, and form of proposal (Circular No. 1471) may be had upon application to the offices of the General Purchasing Officer or the Chief Quartermaster. The Panama Canal reserves the right to reject any or all bids in its discretion.

### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line), Pacific Mail Steamship Company, and Matson Line. The two last named charge \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

### Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Panacan, Panama;" in the United States, "Panacan, Washington."

### Certificate.

By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 403.

PORT OF CRISTOBAL—continued.

| Date.           | Vessel.             | From—                  | *ARRIVALS.                      |         | *DEPARTURES. |                                 | For—                             |
|-----------------|---------------------|------------------------|---------------------------------|---------|--------------|---------------------------------|----------------------------------|
|                 |                     |                        | Line.                           | Date.   | Vessel.      | Line.                           |                                  |
| Mar. 8          | Turrialba           | Colombian ports.       | United Fruit Co.                | Mar. 9  | Heredia      | United Fruit Co.                | New Orleans via Tela and Habana. |
| Mar. 9          | Metapan             | New York via Kingston. | United Fruit Co.                | Mar. 9  | Turrialba    | United Fruit Co.                | New York via Kingston.           |
| Mar. 10         | Acomas              | Boca del Toro.         | United Fruit Co.                | Mar. 9  | Acomas       | United Fruit Co.                | New Orleans.                     |
| Mar. 10         | Calamares           | New York via wayports. | Panama Railroad Steamship Line. | Mar. 10 | Metapan      | United Fruit Co.                | New York via wayports.           |
| Mar. 11         | Gen. G. W. Goethals | New York via Haiti.    | Panama Railroad Steamship Line. | Mar. 11 | Calamares    | United Fruit Co.                | New York via wayports.           |
| Mar. 11         | San Benito          | Boston via wayports.   | United Fruit Co.                | Mar. 11 | San Benito   | United Fruit Co.                | Boston.                          |
| Mar. 11         | Suyvesant           | Port Limon.            | Royal Netherlands W. I. Mail    | Mar. 11 | Suyvesant    | Royal Netherlands W. I. Mail    | Puerto Colombia.                 |
|                 |                     |                        | Royal Netherlands W. I. Mail    | Mar. 11 | Suyvesant    | Panama Railroad Steamship Line. | Puerto Colombia.                 |
|                 |                     |                        |                                 | Mar. 11 | Advance      |                                 |                                  |
| PORT OF BALBOA. |                     |                        |                                 |         |              |                                 |                                  |
|                 |                     |                        | United States Navy              |         |              |                                 |                                  |
|                 |                     |                        | Corinto.                        |         |              |                                 |                                  |
| Mar. 9          | Denver*             |                        |                                 |         |              |                                 |                                  |

\* Other than ships passing through the Canal.

\* Cruiser.



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., March 22, 1922.

No. 32.

## Radio Pratique for Merchant Vessels.

The granting of pratique by radio to merchant vessels under certain conditions, authorized by Panama Canal Circular No. 626-10, dated February 17, 1922, has worked satisfactorily. The practice is in line with the policy of The Panama Canal of facilitating in every practicable way the prompt and easy dispatch of vessels, while maintaining the necessary safeguards. The quarantine restrictions and delays are kept to the minimum consistent with due regard for safety.

The conditions under which pratique is granted by radio are as set forth in the circular, which is reprinted below for ready reference:

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, February 17, 1922.

CIRCULAR No. 626-10.

### Radio Pratique for Merchant Vessels.

Hereafter, ships with clean bills of health, from noninfected ports, and without sickness on board, intending to transit the Canal without taking supplies or stores of any kind or landing passengers or cargo, may be granted pratique by radio under the following conditions:

(a) By making application therefor by radio between the hours of 8 a. m. and 4 p. m. Such application to state:

1. That the vessel has a clean bill of health and has no sickness on board.
2. Names of ports and places visited within the past 10 days.
3. That the vessel intends to transit the Canal without taking stores of any kind or landing passengers or cargo.

(b) Radio will be addressed to Chief Quarantine Officer through Port Captain.

(c) Pratique will not be considered as granted until reply has been received from Port Captain "Chief Quarantine Officer grants pratique."

M. L. WALKER.  
Acting Governor.

## Salvage of the "Garfield" Completed.

The steamer *Garfield*, aground in Galera de Zamba Bay, Colombia, since January 21, got clear at 3.45 p. m., March 18. The salvage steamer *Favorite* of The Panama Canal, which assisted in freeing the *Garfield*, brought her in tow to Cristobal, arriving there at 5 a. m., March 20. The *Garfield* was leaking and it may be necessary to put her in dry dock.

As told in THE PANAMA CANAL RECORD of March 8, the salvage operations were difficult, on account of the wide reach of shallows, where heavy seas, frequently rolling under a 50-mile gale, made work slow and hazardous. The *Garfield* traveled  $1\frac{3}{4}$  miles through a series of bars, coming to a stop in 5 feet of water; and in order to get clear had to work back to clear water through the same obstructions, while most of the time heavy seas were pounding her. It is considered remarkable that she came through with such relatively little damage and without the loss of her cargo.

**MOVEMENTS OF OCEAN VESSELS.**  
*Week ending at midnight, March 18, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                          | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line. | Length.                                 | Beam. | Salt draft. | From— | For—              | Cargo.            |        | Panama Canal tonnage. |       |
|--------------------------------|------------------|-------|----------------|-------|--------------------|-------|--------------|-------|-----------------------------------------|-------|-------------|-------|-------------------|-------------------|--------|-----------------------|-------|
|                                | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |       |                                         |       |             |       |                   | Nature.           | Tons.  | Gross.                | Net.  |
| Huanchaco.....                 | 12               | 1 20  | 12             | 6 50  | 12                 | 13 50 | 12           | 15 15 | British.....                            | 390.6 | 53.0        | 25.9  | Leith.....        | General           | 3,552  | 5,995                 | 4,391 |
| Hanover.....                   | 11               | 17 09 | 12             | 7 35  | 12                 | 16 29 | 12           | 17 45 | Tampa Interocean Co. (S. B.).....       | 434.3 | 57.7        | 27.6  | Galveston.....    | General case oil. | 5,895  | 7,982                 | 5,911 |
| Tamui.....                     | 12               | 1 36  | 12             | 9 15  | 12                 | 17 22 | 13           | 1 00  | Shaw, Saville & Albion Co.....          | 477.8 | 61.1        | 27.6  | London.....       | General           | 6,500  | 10,631                | 7,606 |
| Canadian Con-<br>structor..... | 9                | 9 55  | 12             | 10 12 | 12                 | 18 29 | 12           | 19 32 | Canadian Government.....                | 430.0 | 53.0        | 26.9  | New York.....     | General case oil. | 6,000  | 7,689                 | 5,494 |
| George Wash-<br>ington.....    | 12               | 10 50 | 12             | 11 10 | 12                 | 19 30 | 13           | 11 15 | Peter Olsen.....                        | 425.0 | 55.3        | 25.0  | Antwerp.....      | General           | 8,180  | 7,505                 | 5,627 |
| Florence.....                  | 13               | 12 15 | 13             | 12 30 | 13                 | 18 56 | 13           | 20 00 | Luckenbach Line.....                    | 401.0 | 53.0        | 22 19 | New Orleans.....  | General           | 5,630  | 6,002                 | 4,621 |
| Ocean Prince.....              | 13               | 7 45  | 14             | 6 25  | 14                 | 13 48 | 14           | 15 10 | Rio Cape Line, Ltd.....                 | 410.3 | 52.0        | 18.0  | Cardiff.....      | Ballast           | 1,781  | 10,595                | 8,023 |
| Port Denison.....              | 13               | 22 29 | 14             | 7 13  | 14                 | 14 52 | 14           | 16 30 | Commonwealth and Dom. Line.....         | 430.4 | 60.0        | 21.0  | London.....       | General           | 7,353  | 6,101                 | 4,353 |
| Valdura.....                   | 13               | 21 55 | 14             | 8 09  | 14                 | 16 04 | 14           | 17 25 | Gow Harrison & Co.....                  | 414.0 | 56.0        | 25.0  | Puerto Padre..... | Sugar             | 42,700 | 733                   | 456   |
| Thomas L.<br>Ward.....         | 13               | 6 17  | 14             | 8 50  | 14                 | 16 51 | 14           | 18 00 | J. C. Orden.....                        | 174.0 | 38.0        | 16.0  | Galveston.....    | General           | 513    | 1,273                 | 700   |
| Acayuta.....                   | 6                | 15 18 | 14             | 9 15  | 14                 | 15 50 | 14           | 17 35 | Pacific Steam Navigation Co.....        | 215.7 | 33.5        | 11.0  | Cristobal.....    | General           | 3,363  | 5,688                 | 4,226 |
| American.....                  | 14               | 5 00  | 14             | 10 20 | 14                 | 18 05 | 14           | 18 55 | American-Hawaiian Line.....             | 406.8 | 51.1        | 21.6  | Boston.....       | General           | 393    | 4,511                 | 2,380 |
| Huallaga.....                  | 5                | 17 55 | 14             | 11 00 | 14                 | 19 13 | 14           | 20 20 | Peruvian Line.....                      | 360.0 | 44.7        | 21.0  | Cristobal.....    | General           | 91     | 1,357                 | 884   |
| Manavi.....                    | 9                | 14 04 | 14             | 11 00 | 14                 | 19 14 | 14           | 23 02 | Pacific Steam Navigation Co.....        | 216.0 | 33.1        | 12.4  | Cristobal.....    | General           | 4,297  | 3,663                 |       |
| S. C. 285.....                 | 10               | 7 00  | 15             | 6 55  | 15                 | 14 49 |              |       | United States Navy.....                 | 332.0 | 52.0        | 15.2  | Norfolk.....      | Ballast           | 6,700  | 5,945                 | 4,561 |
| Darien.....                    | 14               | 15 37 | 15             | 7 20  | 15                 | 16 03 | 17           | 1 19  | Panama Railroad Steamship Line.....     | 335.0 | 51.0        | 23.6  | New York.....     | General           | 8,603  | 7,285                 | 5,250 |
| Eastern.....                   | 14               | 21 05 | 15             | 11 50 | 15                 | 19 02 |              |       | United States Steel Products Co.....    | 395.6 | 55.0        | 27.8  | New York.....     | General           | 5,750  | 8,513                 | 6,402 |
| Steel Voyager.....             | 15               | 10 20 | 15             | 12 39 | 15                 | 20 05 | 15           | 21 05 | Luckenbach Line.....                    | 435.6 | 57.2        | 27.2  | New York.....     | Sugar             | 6,761  | 6,383                 | 4,965 |
| Julia Lucken-<br>bach.....     | 16               | 9 15  | 16             | 9 35  | 16                 | 17 13 | 17           | 9 47  | Pacific Steamship Co. (S. B.).....      | 410.5 | 54.3        | 21.8  | Marlet.....       | General           | 3,824  | 6,665                 | 5,020 |
| West Nihus.....                | 16               | 11 20 | 16             | 11 45 | 16                 | 19 10 | 16           | 20 15 | All Gulf and Pac S. S. Co. (S. B.)..... | 409.6 | 54.1        | 19.0  | Baltimore.....    | General           | 6,598  | 11,766                | 7,876 |
| West Haven.....                | 16               | 10 03 | 17             | 6 15  | 17                 | 13 48 | 17           | 15 15 | Federal Steam Navigation Co.....        | 405.0 | 63.1        | 31.6  | Arromouth.....    | General           | 7,371  | 5,919                 | 4,387 |
| Corwall.....                   | 16               | 10 15 | 17             | 7 17  | 17                 | 16 30 | 17           | 18 00 | Kawasaki Zensho K. K.....               | 335.0 | 51.0        | 28.2  | New York.....     | General coal      | 6,153  | 5,667                 | 4,227 |
| Kifika Maru.....               | 16               | 10 15 | 17             | 8 30  | 17                 | 17 27 | 17           | 18 40 | Wesol Duml & Co. (S. B.).....           | 330.0 | 51.0        | 21.0  | New York.....     | General           | 6,218  | 5,919                 | 4,387 |
| Oreus.....                     | 17               | 9 15  | 17             | 9 40  | 17                 | 18 25 | 17           | 21 07 | Oreka Steamship Kaisha.....             | 290.0 | 41.0        | 12.1  | Cristobal.....    | General           | 88     | 2,805                 | 1,982 |
| Borneo Maru.....               | 17               | 18 15 | 17             | 12 52 | 17                 | 19 58 | 17           | 21 37 | Pacific Mail Steamship Co.....          | 298.6 | 40.0        | 18.0  | Champerico.....   | General           | 2,752  | 2,910                 | 1,835 |
| Point Judith.....              | 18               | 6 35  | 18             | 7 35  | 18                 | 16 34 | 18           | 20 16 | W. R. Grace & Co.....                   | 335.0 | 51.5        | 21.6  | New York.....     | Oil su tar        | 5,723  | 6,623                 | 3,758 |
| Micula.....                    | 18               | 6 35  | 18             | 7 35  | 18                 | 16 34 | 18           | 20 16 | Henrik Ostervoll.....                   | 253.9 | 39.2        | 11.0  | New York.....     | General           | 8,211  | 6,623                 | 5,304 |
| Havo.....                      | 18               | 1 47  | 18             | 8 53  | 18                 | 18 09 | 18           | 20 00 | Otsuka Sosen Kaisha.....                | 254.8 | 39.2        | 11.0  | New York.....     | General           | 8,316  | 6,581                 | 5,010 |
| Shunko Maru.....               | 18               | 12 14 | 18             | 11 14 | 18                 | 18 59 | 18           | 20 00 | Thor Thoresen.....                      | 419.2 | 55.8        | 26.9  | New York.....     | General           |        |                       |       |
| Sarufes.....                   | 18               | 1 47  | 18             | 8 53  | 18                 | 18 09 | 18           | 20 00 | Lancashire Shipping Co.....             | 419.2 | 55.8        | 26.9  | New York.....     | General           |        |                       |       |
| Wray Castle.....               | 18               | 9 52  | 18             | 13 05 | 18                 | 20 13 |              |       |                                         |       |             |       |                   |                   |        |                       |       |

\* Barrels.

\* Barge.

\* Steam schooner.

\* Motor ship.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Calveson <sup>1</sup> | 12 | 6.00  | 12 | 13.35 | 12 | 21.10 | 15 | 15.10 | American | United States Government            | 308.4 | 44.5 | 16.1 | Corinto        | Boston       | General           | 7,000  | 1,487 | 8,732 |
|-----------------------|----|-------|----|-------|----|-------|----|-------|----------|-------------------------------------|-------|------|------|----------------|--------------|-------------------|--------|-------|-------|
| Lewis                 | 12 | 16.00 | 13 | 6.29  | 13 | 14.12 | 13 | 14.12 | American | Lockenbach Line                     | 496.0 | 68.2 | 24.0 | San Francisco  | New York     | Ballast           | 7,642  | 5,327 |       |
| Ritchie               | 11 | 19.32 | 13 | 7.58  | 13 | 15.20 | 13 | 15.20 | American | McAllister Bros. (S. B.)            | 436.0 | 56.0 | 18.6 | Bahia          | Tampico      | Ballast           | 7,472  | 5,631 |       |
| Robin Gray            | 11 | 7.30  | 13 | 9.14  | 13 | 16.22 | 13 | 16.22 | American | Robinson Line Steamship Co.         | 434.0 | 55.0 | 16.6 | Kahului, T. I. | Hampton Rls  | Ballast           | 8,264  | 5,863 |       |
| Port Chalmers         | 13 | 8.30  | 13 | 10.07 | 13 | 18.50 | 17 | 11.05 | British  | Commonwealth and Don. Line          | 450.3 | 55.3 | 23.9 | Auckland       | London       | Cold storage, gen | 5,501  | 6,131 | 4,418 |
| Cold Harbor           | 13 | 12.10 | 13 | 13.04 | 13 | 18.50 | 17 | 11.05 | British  | N. Atl. & Western S. S. Co. (S. B.) | 390.0 | 54.2 | 22.6 | Seattle        | Philadelphia | Lumber, general   | 64     | 737   | 335   |
| Bahia                 | 13 | 19.55 | 14 | 6.39  | 14 | 11.21 | 15 | 6.12  | American | Colombian Maritime Co.              | 190.0 | 29.1 | 9.3  | Buenaventura   | Cristobal    | General           | 12,000 | 9,158 | 6,970 |
| Arizona               | 13 | 20.10 | 14 | 7.47  | 14 | 15.15 | 15 | 6.12  | American | American-Hawaiian Line              | 470.1 | 57.0 | 28.7 | Vancouver      | London       | General           | 4,749  | 2,689 | 1,679 |
| Hudson                | 13 | 21.10 | 14 | 8.11  | 14 | 17.21 | 15 | 21.43 | French   | French Line                         | 279.0 | 46.0 | 25.0 | San Francisco  | La Havre     | Copper, general   | 3,970  | 2,895 | 1,982 |
| Point Judith          | 14 | 7.00  | 14 | 9.43  | 14 | 18.13 | 17 | 12.52 | American | Pacific Mail Steamship Co.          | 289.0 | 44.1 | 21.6 | San Francisco  | Cristobal    | General           | 6,966  | 5,816 | 4,113 |
| Bahia                 | 14 | 6.30  | 15 | 6.30  | 15 | 15.20 | 15 | 17.10 | British  | Pacific General Navigation Co.      | 400.1 | 52.3 | 22.0 | Los Angeles    | Europe       | Ballast           | 5,067  | 5,089 |       |
| Liebre                | 15 | 6.30  | 15 | 7.48  | 15 | 15.55 | 16 | 19.53 | American | General Petroleum Co.               | 435.0 | 56.2 | 23.0 | Talabano       | Tampico      | General           | 5,087  | 5,733 | 4,015 |
| Borota                | 15 | 10.50 | 16 | 7.51  | 16 | 15.45 | 16 | 19.53 | British  | Pacific Steam Navigation Co.        | 400.0 | 52.4 | 22.6 | Valparaiso     | Europe       | General           | 5,955  | 2,832 | 1,803 |
| Kentuckian            | 17 | 7.00  | 17 | 8.05  | 17 | 15.15 | 17 | 15.15 | American | American-Hawaiian Line              | 414.5 | 53.7 | 23.0 | Bellingham     | New York     | General           | 1,900  | 4,838 | 2,959 |
| Frederick             | 17 | 12.00 | 17 | 13.03 | 17 | 21.15 | 18 | 11.57 | American | Lockenbach Line                     | 317.5 | 40.2 | 19.0 | Seattle        | Mobile       | General           | 1,237  | 4,955 | 3,523 |
| Lukenbach             | 17 | 12.30 | 17 | 13.18 | 17 | 21.03 | 18 | 11.18 | American | W. R. Grace & Co.                   | 288.6 | 40.0 | 16.0 | Salvador       | New York     | General           | 1,966  | 4,838 | 2,959 |
| Santa Tecla           | 18 | 5.00  | 18 | 8.12  | 18 | 15.13 | 18 | 15.13 | Peruvian | Peruian Line                        | 367.3 | 45.0 | 19.0 | Callao         | Cristobal    | General           | 5,722  | 4,955 | 3,523 |
| Mantero               | 17 | 22.00 | 18 | 8.40  | 18 | 16.50 | 18 | 17.55 | American | United States Steel Products Co.    | 315.0 | 50.0 | 24.2 | Portland       | Liverpool    | Coffee, balsam    | 1,084  | 1,213 | 692   |
| Cresler Hall          | 18 | 13.00 | 18 | 13.45 | 18 | 20.03 |    |       | British  | United States Steel Products Co.    | 289.0 | 33.0 | 17.5 | Champerico     | Cristobal    |                   |        |       |       |
| Salvador              | 18 | 13.00 | 18 | 13.45 | 18 | 20.03 |    |       | British  | Pacific Steam Navigation Co.        | 414.5 | 53.7 | 23.0 | Bellingham     | New York     | General           | 1,900  | 4,838 | 2,959 |

\* Cruiser.

\* Nitrate, copper, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

\* Ore, opoon, coffee, hides, and general.

\* Canned goods and lumber.

## PORT OF CRISTOBAL.

## \* ARRIVALS.

| Date     | Vessel             | From—                          | Date     | Vessel              | Line                           | For—                     |
|----------|--------------------|--------------------------------|----------|---------------------|--------------------------------|--------------------------|
| March 12 | Abangarez          | United Fruit Co.               | March 12 | Irene S. Wilkinson  | Howard Lumber Co.              | New Orleans              |
| March 12 | Actor              | Harrison Line                  | March 13 | Abangarez           | United Fruit Co.               | Bocas del Toro           |
| March 12 | Stuyvesant         | Royal Netherlands W. I. Mail   | March 15 | Trophon             | Anglo-Saxon Petroleum Co.      | Tampico                  |
| March 13 | Trophon            | Anglo-Saxon Petroleum Co.      | March 15 | San Blas            | United Fruit Co.               | Boston via wayports,     |
| March 13 | Parishina          | United Fruit Co.               | March 15 | Stuyvesant          | Royal Netherlands W. I. Mail   | Puerto Colombia.         |
| March 15 | San Blas           | United Fruit Co.               | March 15 | Achilles            | Panama Railroad Steamship Line | Norfolk                  |
| March 15 | Antonio Lopez      | Spanish Line                   | March 16 | Actor               | Harrison Line                  | Puerto Cortez            |
| March 15 | Abangarez          | United Fruit Co.               | March 16 | Parishina           | United Fruit Co.               | New Orleans via wayports |
| March 16 | Advance            | Panama Railroad Steamship Line | March 16 | Abangarez           | United Fruit Co.               | New Orleans              |
| March 16 | Pastores           | United Fruit Co.               | March 17 | Antonio Lopez       | Spanish Line                   | Barcelona via wayports,  |
| March 17 | Camden             | United Fruit Co.               | March 17 | Pastores            | Panama Railroad Steamship Line | New York via Haiti.      |
| March 17 | Elmer & Fyffes Ltd | United Fruit Co.               | March 18 | Gen. G. W. Goethals | United Fruit Co.               | New York via wayports.   |
| March 18 | Colon              | Panama Railroad Steamship Line | March 18 | Camilo              | Elders & Fyffes, Ltd           | Kingston, Jamaica.       |
| March 18 | Barranca           | Bisio Toyboat Co.              | March 18 | Camilo              | Elders & Fyffes, Ltd           | Kingston, Jamaica.       |
| March 18 | Puerto Rico        | French Line                    | March 18 | Camilo              | Elders & Fyffes, Ltd           | Kingston, Jamaica.       |

\* Tug.

## PORT OF BAILEA.

| Date     | Vessel  | From—              | Date     | Vessel  | Line                          | For—           |
|----------|---------|--------------------|----------|---------|-------------------------------|----------------|
| March 13 | Rosana  | Bahia de Caraquez, | March 17 | Meriden | General Steamship Corporation | San Francisco. |
| March 14 | Invader | Los Angeles,       | March 18 | Rosana  | Alberto Falt                  | Puntarenas.    |
| March 15 | Meriden | Arica.             | March 18 | Rosana  | Alberto Falt                  | Puntarenas.    |

\* Gas screw auxiliary.

\* Other than ships passing through the Canal.



### Reported Record Trip from New York to Sydney.

The following is from the *New York Herald* of March 6:

What is probably a record for a freighter's trip from New York to Australia via the Panama Canal is reported by Funch, Edye & Co., American agents for the Commonwealth and Dominion Line. The *Port Nicholson* left New York January 21 and arrived at Brisbane February 24 and Sydney March 1 or 36 days in all after a stop of 2 days for bunkers at Newport News.

The *Port Nicholson* arrived at Cristobal on this voyage at 11.11 p. m., January 29, and started through the Canal at 7.22 the following morning, taking place No. S 2 in the schedule for transit. She completed transit at 3.42 p. m. and cleared for sea at 4.19 p. m., after receiving commissary supplies, which had been ordered on arrival and were delivered at Balboa from the supply boat while the vessel was underway.

Commenting on this voyage, the agent for the Commonwealth and Dominion Line on the Isthmus states:

According to books of reference we have, the following are the distances in nautical miles:

|                               |       |
|-------------------------------|-------|
| New York to Newport News..... | 289   |
| Newport News to Colon.....    | 1,776 |
| Colon to Balboa.....          | 38    |
| Balboa to Brisbane.....       | 7,603 |
| Brisbane to Sydney.....       | 474   |

Total nautical miles..... 10,180

As the vessel arrived in Brisbane on February 24 and in Sydney on March 1, it is to be assumed that she remained in the former port until February 27. Brisbane to Sydney would be a 36-hour run. Allowance must be made for the setback in date of a day when she crossed the Date Line about meridian 180.

The *Port Nicholson* is a twin-screw steamer of 8,402 tons gross register, equipped with steam turbines, which give her a speed of between 13 and 14 knots. She is one of the latest of the line, having been built in 1919.

### Unusual and Exacting Repair Job.

The following is from the report of the Superintendent of the Mechanical Division for the month of February:

A most unusual and exacting job in the nature of repairs was performed by the Balboa shops on the crank shaft from the port auxiliary compressor engine of the motor ship *Pedro Christopherson*. Due to an accident on board ship the 4-throw crank shaft was twisted, leaving the shaft distorted to a total of about 63 degrees from a vertical line from No. 1 throw to the end of the shaft. The distortion existed in all of the throws from 16 to 18 degrees in each one. The shaft was about 13 feet 6 inches over all, the radius of the throws 8 inches and the diameter of the crank and main bearings about 7½ inches. It was dismantled and sent to the shops, heated and straightened and the throws and journals turned; the maximum amount of material lost in the re-turning did not exceed 3/64 of an inch. When the rigidity of the shaft, the general twist over its entire length, and the small amount of material lost in remachining is considered, it is believed that an unusually difficult job was very successfully handled.

### Agency for United States Mail Steamship Company's European Passenger Service.

The Panama Railroad Company has accepted the agency of the United States Mail Steamship Co., Inc., for the sale of passenger tickets over the line of that company between New York and Europe. Through tickets from the Isthmus to European ports may be purchased from the Steamship Ticket Agent of the Panama Railroad Company at Cristobal.



### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending March 18, 1922.

| Name of vessel.          | Line or charterer.                  | Arrived.      | Departed.     | Cargo—           |                  |
|--------------------------|-------------------------------------|---------------|---------------|------------------|------------------|
|                          |                                     |               |               | Discharged       | Laded.           |
|                          |                                     |               |               | Tons.            | Tons.            |
| St. Joseph.....          | French Line.....                    | .....         | March 12..... | .....            | 149              |
| Jamaica.....             | Pacific Steam Navigation Co.....    | .....         | March 12..... | .....            | 8                |
| Abangarez.....           | United Fruit Co.....                | March 12..... | March 13..... | ( <sup>1</sup> ) | 357½             |
| Aetor.....               | Harrison Line.....                  | March 12..... | March 15..... | 436              | ( <sup>2</sup> ) |
| Trophon.....             | Anglo-Saxon Petroleum Co.....       | March 12..... | March 14..... | 4,400            | ( <sup>2</sup> ) |
| Huallaga.....            | Peruvian Line.....                  | .....         | March 14..... | .....            | 399              |
| Acajutla.....            | Pacific Steam Navigation Co.....    | .....         | March 14..... | .....            | 527              |
| Manavi.....              | Pacific Steam Navigation Co.....    | .....         | March 14..... | .....            | 128              |
| Parismina.....           | United Fruit Co.....                | March 13..... | March 16..... | 883              | ( <sup>2</sup> ) |
| Hudson.....              | French Line.....                    | March 14..... | March 14..... | 3                | ( <sup>2</sup> ) |
| Balboa.....              | Colombian Maritime Co.....          | March 14..... | .....         | 64               | .....            |
| Point Judith.....        | Pacific Mail Steamship Co.....      | March 14..... | March 17..... | 2,984            | 88               |
| Antonio Lopez.....       | Spanish Line.....                   | March 15..... | March 16..... | 213              | 426              |
| San Elas.....            | United Fruit Co.....                | March 15..... | March 15..... | 12               | ( <sup>2</sup> ) |
| Bogota.....              | Pacific Steam Navigation Co.....    | March 16..... | March 16..... | ( <sup>1</sup> ) | 22               |
| Advance.....             | Panama Railroad Steamship Line..... | March 16..... | .....         | 250              | .....            |
| Abangarez.....           | United Fruit Co.....                | March 16..... | March 16..... | 1½               | 100              |
| Pastores.....            | United Fruit Co.....                | March 17..... | March 18..... | 183              | 302              |
| Santa Tecla.....         | W. R. Grace & Co.....               | March 17..... | March 18..... | 170              | ( <sup>2</sup> ) |
| Camden.....              | United Fruit Co.....                | March 17..... | .....         | 8,897            | .....            |
| Gen. G. W. Goethals..... | Panama Railroad Steamship Line..... | .....         | March 18..... | .....            | 1,665            |
| Camito.....              | Elser & Fyffes, Ltd.....            | March 18..... | March 18..... | 15               | 3                |
| Salvador.....            | Pacific Steam Navigation Co.....    | March 18..... | .....         | 1,084            | .....            |
| Sarpfos.....             | Caribbean Steamship Line.....       | March 18..... | March 18..... | 4                | ( <sup>2</sup> ) |
| Mantaro.....             | Peruvian Line.....                  | March 18..... | .....         | 1,966            | .....            |
| Puerto Rico.....         | French Line.....                    | March 18..... | .....         | 41               | .....            |
| Kekoskee.....            | Columbus Shipping Co.....           | March 18..... | .....         | 6,211            | .....            |
| Gen. H. F. Hodges.....   | Panama Railroad Steamship Line..... | March 18..... | .....         | 994              | .....            |
| Colon.....               | Panama Railroad Steamship Line..... | March 18..... | .....         | 1,935            | .....            |

\* No cargo discharged.

\* No cargo laded.

\* Pounds.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending March 18, 1922.

| Name of vessel.        | Line or charterer.                 | Arrived.      | Departed.     | Cargo—     |        |
|------------------------|------------------------------------|---------------|---------------|------------|--------|
|                        |                                    |               |               | Discharged | Laded. |
|                        |                                    |               |               | Tons.      | Tons.  |
| San Juan.....          | Pacific Mail Steamship Co.....     | March 11..... | March 12..... | .....      | 26     |
| George Washington..... | Peter Olsen.....                   | March 12..... | March 12..... | 180        | .....  |
| Richconcal.....        | United States Shipping Board.....  | March 12..... | March 13..... | 8,000      | .....  |
| Acajutla.....          | Pacific Steam Navigation Co.....   | March 14..... | March 14..... | .....      | 1      |
| Manavi.....            | Pacific Steam Navigation Co.....   | March 14..... | March 14..... | .....      | 11     |
| Meriden.....           | General Steamship Corporation..... | March 15..... | March 16..... | 950        | .....  |
| Santa Tecla.....       | W. R. Grace & Co.....              | March 17..... | March 17..... | 4          | .....  |

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the two weeks ended March 21:

Steamship *Argyll*, furnish air for operation of ship's auxiliaries; clean salt out of boilers; scale furnaces, combustion chamber, and tube sheets; install approximately 575 new tubes; barge *No. 13*, dock and undock; clean bottom; remove and install 8 new shell plates; paint bottom 1 coat of anticorrosive and 1 coat of antifouling; launch *Palo Seco*, remetal crank bearings; remove tail shaft; repair hull, woodwork, and general minor repairs; motor ship *Rosana*, manufacture 2 collars and 3 nozzles; steamship *Easterner*, manufacture and install a plate patch on lower end of air pump walking beam bracket; drill low-pressure cylinder column and install through bolts for supports; fit taper pin in air pump rod.

### PREVIOUSLY REPORTED.

Steamship *La Habra*, dock and undock; stage and clean; paint bottom and general operating repairs; tug *Gorgona*, dock and undock; stage and clean; chip and paint bottom; draw tail shaft and miscellaneous repairs to ship's operating gear; barge *No. 135*, straighten coaming; tighten bad order rivets; drill barge *L-55*, remove from water and place on dock; remove copper sheathing in spots for examination of hull.

The following vessels were at the Cristobal shops for repairs during the week ended March 20:

Steamships *Stuyvesant*, manufacture M. P. valve stem, valve, and rings; repair air pump valves and make 8 sets of Kinghorn metal valves; repair steering engine exhaust line; repair brine line for ice machine, etc.; *Port Chalmers*, manufacture new H. P. piston follower, bull ring, snap rings, and bolts etc.; *Balboa*, electric weld boiler as directed; furnish steering chains and overhaul steering gear and blocks; repair hand fire pump; renew floor plates in stokehold; repair steam pipe to forward winches; manufacture box wrench; renew brake band on windlass, etc.; *Liebre*, renew air pump bracket; check up beam; true up pump rod, etc.; *Advance*, install valve in auxiliary steam line; manufacture 2 rods for sanitary pump; repair bilge suction line in engine room; anneal and repair steering chains; repair No. 1 winch cylinder; install fresh water pump in engine room, etc.; *Gen. H. F. Hodges*, install reinforcing plate on shell, amidships; anneal spare set of steering chains; refasten mooring checks on after counter; repair dining room chairs, etc.; *Colon*, install patches on lifeboat; repair wire to engine and rudder indicators; electric weld horse collar on starboard forward boiler, etc.; *Salvador*, remetal crank brass; manufacture 2 compressor rods; face up grooves in H. P. piston hood and supply and fit new rings, etc.; *Jamaica*, manufacture new boom; install 2 pins in steering engine coupling, etc.; *Mantaro*, renew tee piece in suction line to sanitary pump; manufacture 6 studs and braze copper pipe, etc.; *Point Judith*, tug *Favorite*, and launches *Gold Star* and *Wilhelm*, minor repairs.

#### Scheduled Sailings of Panama Railroad Liners.

The following are proposed sailings of vessels of the Panama Railroad Steamship Line between Cristobal and New York, all voyages being by way of Port-au-Prince, Haiti:

##### CRISTOBAL TO NEW YORK.

| Steamer.               | Leave.        | Arrive.   |
|------------------------|---------------|-----------|
| Colon.....             | March 24..... | April 1.  |
| Panama.....            | April 4.....  | April 12. |
| Gen. Geo. W. Goethals. | April 14..... | April 22. |
| Colon.....             | April 24..... | May 2.    |
| Panama.....            | May 5.....    | May 13.   |
| Gen. Geo. W. Goethals. | May 13.....   | May 21.   |
| Colon.....             | May 24.....   | June 1.   |

##### NEW YORK TO CRISTOBAL.

|                        |               |           |
|------------------------|---------------|-----------|
| Panama.....            | March 27..... | March 28. |
| Gen. Geo. W. Goethals. | March 30..... | April 7.  |
| Colon.....             | April 10..... | April 18. |
| Panama.....            | April 20..... | April 28. |
| Gen. Geo. W. Goethals. | April 29..... | May 7.    |
| Colon.....             | May 10.....   | May 18.   |

#### Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. For ships when delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa.

For coal in large quantities as specified below, taken from alongside Cristobal Coaling Plant by vessels transiting the Canal:

- To vessels taking 1,200 tons or over;
- To vessels taking between 825 and 1,200 tons and bunkering full;
- To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at \$10 per ton of 2,240 pounds.

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at \$10 per ton.

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 4 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

#### Sale of Tugboat "Empire."

Sealed bids in triplicate will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., and also at the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, Canal Zone, not later than 10.30 a. m. on the 17th day of April, 1922, at which time they will be opened in public simultaneously in both offices, for the purchase of the seagoing tugboat *Empire*, 120 feet over-all length, located at Balboa, Canal Zone. Detailed information with photographs, if desired, and form of proposal (Circular No. 1471) may be had upon application to the offices of the General Purchasing Officer or the Chief Quartermaster. The Panama Canal reserves the right to reject any or all bids in its discretion.

#### Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

#### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

# THE PANAMA CANAL RECORD

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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., March 29, 1922.

No. 33.

## CANAL WORK IN FEBRUARY.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of February, 1922:

BALBOA HEIGHTS, C. Z., March 18, 1922.

*The Honorable, the Secretary of War,*  
*Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of February, 1922.

### CANAL TRAFFIC.

The total number of vessels and craft of all kinds transiting the Canal during the month of February, 1922, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                                 | February,<br>1922. | January,<br>1922. | February,<br>1921. |
|-------------------------------------------------|--------------------|-------------------|--------------------|
| Commerical vessels.....                         | 212                | 210               | 241                |
| Noncommercial vessels.....                      | 12                 | 22                | 94                 |
| Launches, etc. (under 10 tons measurement)..... | 5                  | 6                 | 3                  |
| Total vessels and craft through Canal.....      | 229                | 238               | 338                |

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, craneboats, graders, etc., was passed through the locks as follows:

|                   |    |
|-------------------|----|
| Gatun.....        | 18 |
| Pedro Miguel..... | 31 |
| Miraflores.....   | 27 |

### COMMERCIAL TRAFFIC.<sup>1</sup>

#### Tolls.

Under the present dual method of assessing tolls, the revenue from this source was \$866,266.18. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the total revenue would have been increased by \$176,001. These additional tolls would have been contributed by nationality of vessels as follows:

|                    | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------|----------------------------|----------------------------|-------------|
| British.....       | \$34,268.19                | \$19,990.20                | \$54,258.39 |
| Chilean.....       | 3,200.00                   | 2,548.10                   | 5,748.10    |
| Danish.....        | 334.10                     | 244.65                     | 578.75      |
| Dutch.....         | 1,297.40                   | 3,929.70                   | 5,227.10    |
| French.....        | 475.20                     | 1,429.78                   | 1,904.98    |
| German.....        | 797.30                     | 2,412.75                   | 3,210.05    |
| Italian.....       |                            | 1,481.30                   | 1,481.30    |
| Japanese.....      | 4,379.65                   |                            | 4,379.65    |
| Norwegian.....     | 2,595.15                   | 1,529.25                   | 4,124.40    |
| Peruvian.....      | 3,315.75                   | 3,315.75                   | 6,631.50    |
| Swedish.....       | 1,928.75                   | 2,049.95                   | 3,978.70    |
| United States..... | 39,526.38                  | 44,951.70                  | 84,478.08   |
| Totals.....        | 92,117.87                  | 83,883.13                  | 176,001.00  |

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Ships not paying tolls are classed as "noncommercial."



The additional tolls which would have been paid by United States vessels would have been distributed among the following channels of trade:

|                                                  | Atlantic to Pacific. | Pacific to Atlantic. | Total.      |
|--------------------------------------------------|----------------------|----------------------|-------------|
| United States coastwise ports.....               | \$24,777.58          | \$19,449.70          | \$44,227.28 |
| United States and Canal Zone ports.....          | 319.70               |                      | 319.70      |
| United States and United States possessions..... |                      | 2,199.25             | 2,199.25    |
| United States and foreign ports.....             | 13,151.15            | 21,183.92            | 34,335.07   |
| Between foreign ports.....                       | 1,277.95             | 2,118.83             | 3,396.78    |
| Totals.....                                      | 39,526.38            | 44,951.70            | 84,478.08   |

Of the \$176,001 additional revenue that would have been collected by using the Panama Canal rules exclusively, \$5,478.80 represents the additional tolls that would have been collected on account of deck cargo.

#### COMPARATIVE TRAFFIC STATISTICS.

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal in February, 1922, with that of the preceding months, along the lines indicated at the head of the various tables:

#### TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | February, 1922. | January, 1922. | February, 1921. | Average month for past year. |
|-------------------------------------------|-----------------|----------------|-----------------|------------------------------|
| United States equivalent net tonnage..... | 710,548         | 689,035        | 763,925         | 764,519                      |
| Panama Canal net tonnage.....             | 886,535         | 846,516        | 916,838         | 940,632                      |
| Registered gross tonnage.....             | 1,116,014       | 1,069,840      | 1,179,979       | 1,188,406                    |
| Registered net tonnage.....               | 700,126         | 691,648        | 752,022         | 758,378                      |
| Tolls.....                                | \$866,266.18    | \$847,767.55   | \$917,412.49    | \$926,795.18                 |
| Cargo.....                                | 838,074         | 807,298        | 952,904         | 882,313                      |

#### UNITED STATES COASTWISE TRAFFIC.

|                | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|----------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.          |                      |                    |             |                |                      |                    |             |                |
| January.....   | 17                   | 88,086             | \$91,390.00 | 76,593         | 16                   | 62,765             | \$64,343.59 | 81,336         |
| February.....  | 15                   | 80,940             | 79,169.10   | 67,302         | 17                   | 66,043             | 66,703.70   | 68,345         |
| March.....     | 16                   | 71,770             | 75,338.65   | 55,111         | 11                   | 61,804             | 64,470.64   | 52,289         |
| April.....     | 19                   | 92,033             | 94,185.00   | 94,484         | 14                   | 68,368             | 65,523.74   | 59,306         |
| May.....       | 19                   | 82,257             | 84,545.85   | 90,617         | 16                   | 75,593             | 72,813.55   | 93,242         |
| June.....      | 17                   | 96,199             | 94,577.11   | 68,809         | 11                   | 53,986             | 53,953.75   | 57,234         |
| July.....      | 19                   | 101,924            | 99,474.75   | 60,997         | 14                   | 70,477             | 72,103.75   | 91,991         |
| August.....    | 19                   | 86,278             | 81,724.17   | 55,387         | 23                   | 110,899            | 118,316.25  | 129,792        |
| September..... | 25                   | 134,239            | 136,340.58  | 72,620         | 15                   | 88,111             | 83,011.64   | 104,642        |
| October.....   | 22                   | 113,712            | 116,752.05  | 86,442         | 19                   | 96,731             | 101,710.00  | 105,951        |
| November.....  | 24                   | 136,349            | 131,558.19  | 91,067         | 17                   | 86,958             | 88,339.80   | 101,460        |
| December.....  | 20                   | 104,152            | 106,549.80  | 73,967         | 23                   | 116,482            | 117,600.08  | 105,134        |
| 1922.          |                      |                    |             |                |                      |                    |             |                |
| January.....   | 28                   | 138,928            | 141,404.35  | 119,413        | 20                   | 108,921            | 111,440.00  | 86,862         |
| February.....  | 25                   | 117,512            | 116,235.50  | 94,548         | 19                   | 89,862             | 84,133.82   | 84,330         |

#### UNITED STATES SHIPPING BOARD VESSELS.

|                | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|----------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.          |                      |                    |             |                |                      |                    |             |                |
| January.....   | 14                   | 59,738             | \$64,769.85 | 70,058         | 23                   | 96,877             | \$93,268.29 | 98,075         |
| February.....  | 8                    | 41,024             | 42,951.75   | 35,018         | 20                   | 96,441             | 94,082.01   | 108,285        |
| March.....     | 18                   | 94,823             | 96,782.80   | 83,978         | 8                    | 34,066             | 31,378.00   | 30,025         |
| April.....     | 13                   | 61,176             | 61,590.00   | 60,231         | 12                   | 56,049             | 53,162.18   | 52,908         |
| May.....       | 9                    | 39,614             | 40,180.00   | 48,489         | 21                   | 97,257             | 92,580.47   | 114,107        |
| June.....      | 17                   | 86,361             | 78,770.14   | 65,945         | 11                   | 49,370             | 48,080.00   | 59,696         |
| July.....      | 12                   | 67,851             | 65,796.25   | 29,918         | 12                   | 60,804             | 61,305.00   | 82,767         |
| August.....    | 15                   | 76,570             | 71,607.58   | 46,542         | 18                   | 79,390             | 77,353.39   | 91,897         |
| September..... | 10                   | 53,816             | 51,785.48   | 38,368         | 16                   | 84,433             | 82,566.25   | 109,610        |
| October.....   | 10                   | 55,300             | 53,475.00   | 34,593         | 14                   | 61,980             | 62,318.75   | 79,129         |
| November.....  | 12                   | 74,635             | 71,525.74   | 44,976         | 5                    | 29,949             | 29,127.50   | 28,865         |
| December.....  | 9                    | 47,604             | 46,318.75   | 44,101         | 6                    | 32,957             | 32,803.75   | 28,784         |
| 1922.          |                      |                    |             |                |                      |                    |             |                |
| January.....   | 6                    | 34,546             | 34,756.25   | 23,575         | 7                    | 31,550             | 30,646.95   | 28,831         |
| February.....  | 8                    | 39,168             | 36,706.25   | 49,424         | 6                    | 32,909             | 31,538.75   | 21,119         |



## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED.

|                                           | February,<br>1922. | January,<br>1922. | February,<br>1921. |
|-------------------------------------------|--------------------|-------------------|--------------------|
| United States equivalent net tonnage..... | 3,351              | 3,281             | 3,170              |
| Panama Canal net tonnage.....             | 4,182              | 4,031             | 3,804              |
| Registered gross tonnage.....             | 5,264              | 5,095             | 4,896              |
| Registered net tonnage.....               | 3,302              | 3,294             | 3,120              |
| Tolls.....                                | \$4,086.16         | \$4,036.99        | \$3,806.69         |
| Tons of cargo (all vessels).....          | 3,953              | 3,844             | 3,954              |
| Tons of cargo (laden vessels only).....   | 4,411              | 4,160             | 4,495              |

## COMMODITY STATISTICS.

A classification of cargo passing through the Panama Canal during the month of February, 1922, has been compiled from declarations of cargo submitted by the ships' masters, and while incomplete, is indicative of the kind and quantity of the various commodities carried by ships transiting the Canal. From the cargo declarations and manifests submitted, it was possible to classify by commodities 81 per cent of all cargo passing from the Atlantic to the Pacific, and 93 per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith:

| Commodity.                                | February,<br>1922. | January,<br>1922. | December,<br>1921. | November,<br>1921. | October,<br>1921. | September,<br>1921. |
|-------------------------------------------|--------------------|-------------------|--------------------|--------------------|-------------------|---------------------|
| <b>Atlantic to Pacific.</b>               |                    |                   |                    |                    |                   |                     |
| <b>Oil:</b>                               |                    |                   |                    |                    |                   |                     |
| Crude.....                                | 41,755             | 65,862            | 48,272             | 30,144             | 68,891            | 17,981              |
| Refined.....                              | 28,893             | 28,407            | 46,970             | 47,944             | 25,840            | 19,781              |
| Other.....                                | 6,699              | 6,230             | 1,918              | 3,113              | 1,121             | 2,088               |
| <b>Manufactured goods:</b>                |                    |                   |                    |                    |                   |                     |
| Iron and steel.....                       | 109,575            | 78,020            | 81,168             | 65,071             | 48,074            | 50,488              |
| Machinery, railroad material.....         | 18,142             | 38,689            | 24,120             | 23,927             | 14,659            | 19,331              |
| Coal and coke.....                        | 32,545             | 37,587            | 46,462             | 52,850             | 21,512            | 16,040              |
| Cotton, raw.....                          | 18,218             | 8,793             | 37,614             | 20,807             | 14,725            | 19,207              |
| Metals.....                               | 12,246             | 10,992            | 22,007             | 10,052             | 8,880             | 8,467               |
| Ammonia.....                              | 8,783              | 10,767            | 11,592             | 7,447              | 12,072            | 4,749               |
| Cement.....                               | 4,662              | 2,675             | 10,809             | 5,233              | 2,681             | 1,834               |
| Paper.....                                | 2,198              | 2,569             | 5,077              | 2,900              | 2,813             | 1,210               |
| Sulphur.....                              | 15,400             | 18,025            | 4,000              | 2,500              |                   | 11,551              |
| Tobacco.....                              | 3,923              | 1,831             | 3,086              | 2,075              | 2,879             | 2,452               |
| Other and general.....                    | 139,786            | 183,144           | 174,015            | 112,618            | 150,290           | 125,541             |
| <b>Totals.....</b>                        | <b>442,825</b>     | <b>493,591</b>    | <b>517,110</b>     | <b>386,681</b>     | <b>374,437</b>    | <b>300,720</b>      |
| <b>Pacific to Atlantic.</b>               |                    |                   |                    |                    |                   |                     |
| Nitrate.....                              | 27,022             | 46,716            | 59,957             | 39,523             | 54,256            | 22,758              |
| Manufactured goods: Iron, steel, etc..... | 214                | 2,369             | 2,550              | 265                | 1,053             | 556                 |
| Wheat.....                                | 57,514             | 29,333            | 35,127             | 110,831            | 128,375           | 75,486              |
| Lumber.....                               | 64,002             | 57,347            | 42,610             | 50,564             | 56,606            | 26,750              |
| Barley.....                               | 6,596              | 8,462             | 21,781             | 37,989             | 67,092            | 107,831             |
| <b>Oils:</b>                              |                    |                   |                    |                    |                   |                     |
| Crude.....                                | 10,505             |                   | 4,723              | 26,617             | 670               | 4,820               |
| Refined.....                              | 10                 | 42                | 16,165             | 10,169             | 9,713             | 18,278              |
| Other.....                                | 15,516             | 1,958             | 14,469             | 761                | 1,581             | 1,545               |
| <b>Canned goods:</b>                      |                    |                   |                    |                    |                   |                     |
| Fish.....                                 | 10,798             | 9,246             | 5,202              | 13,767             | 32,761            | 17,232              |
| Fruit.....                                | 8,428              | 11,729            | 15,982             | 19,808             | 25,547            | 35,427              |
| Vegetables, milk.....                     | 1,211              | 890               | 1,660              | 1,470              | 2,523             | 4,302               |
| <b>Ores:</b>                              |                    |                   |                    |                    |                   |                     |
| Metals.....                               | 32,265             | 10,647            | 9,805              | 13,218             | 3,824             | 6,433               |
| Iron.....                                 | 14,659             | 14,234            | 10,959             | 14,515             | 11,078            | 10,516              |
| Fruit, fresh and dried.....               | 11,549             | 8,697             | 3,876              | 13,060             | 4,162             | 6,664               |
| Sugar.....                                | 3,624              | 12,679            | 29,879             | 11,210             | 20,261            | 6,657               |
| Beans, peas, lentils.....                 | 3,766              | 5,088             | 5,351              | 9,270              | 20,547            | 6,774               |
| Flour.....                                | 3,796              | 1,017             | 8,881              | 8,799              | 19,000            | 15,101              |
| Phosphates.....                           | 6,500              | 7,930             | 8,900              | 7,300              | 14,057            |                     |
| Cold storage—Meats.....                   | 17,207             | 5,786             | 13,809             | 4,920              | 18,739            | 10,600              |
| Cotton.....                               | 3,428              | 4,238             | 6,660              | 4,886              | 12,592            | 5,392               |
| Rice.....                                 | 400                | 1,621             | 6,401              | 4,678              | 4,054             | 7,205               |
| Wool.....                                 | 18,363             | 16,024            | 5,555              | 4,349              | 9,081             | 5,522               |
| Coffee.....                               | 9,484              | 3,775             | 4,529              | 3,785              | 4,594             | 6,013               |
| Ivory nuts.....                           | 1,909              | 2,717             | 2,482              | 3,012              | 2,811             | 3,164               |
| Cacao.....                                | 1,866              | 3,917             | 4,745              | 2,862              | 3,844             | 4,327               |
| Tea.....                                  | 38                 | 410               | 1,394              | 1,983              | 3,950             | 546                 |
| Other and general.....                    | 64,579             | 46,835            | 92,491             | 49,148             | 78,567            | 44,275              |
| <b>Totals.....</b>                        | <b>395,249</b>     | <b>313,707</b>    | <b>435,943</b>     | <b>468,759</b>     | <b>611,338</b>    | <b>454,174</b>      |

## TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

All cargo-carrying vessels pay tolls on their net tonnage as determined by established rules for measuring their available cargo-carrying space; the rate of such tolls per cargo ton varies in different ships as the ratio of cargo tonnage to the net tonnage. The table below is indicative of the ratio of cargo tonnage to net tonnage for the month of February, 1922, by nationality of vessels:

|                                             | Atlantic to Pacific. | Pacific to Atlantic. | General average. |
|---------------------------------------------|----------------------|----------------------|------------------|
| British.....                                | \$1.17               | \$1.05               | \$1.12           |
| Chilean.....                                | 1.79                 | 8.24                 | 2.24             |
| Danish.....                                 | .75                  | .81                  | .77              |
| Dutch.....                                  | 1.99                 | .58                  | .82              |
| French.....                                 | 4.13                 | .88                  | 1.08             |
| German.....                                 | 2.56                 | .88                  | 1.27             |
| Italian.....                                |                      | 6.56                 | 6.56             |
| Japanese.....                               | .87                  |                      | .87              |
| Norwegian.....                              | .67                  | .90                  | .75              |
| Peruvian.....                               | 4.19                 | 1.06                 | 1.69             |
| Swedish.....                                | 1.44                 | .51                  | .77              |
| United States.....                          | 1.04                 | .94                  | .99              |
| Average rate all ships, February, 1922..... | 1.09                 | .97                  | 1.03             |
| Average rate all ships, January, 1922.....  | 1.04                 | 1.06                 | 1.05             |
| Average rate all ships, February, 1921..... | .94                  | .97                  | .96              |

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.             | East coast of United States. | Europe. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|--------------------|------------------------------|---------|---------|------------|----------------|---------|
| January, 1921..... | 284,111                      | 129,939 | 60,564  | 21,373     | 21,732         | 517,719 |
| February.....      | 268,727                      | 75,532  | 55,859  | 18,844     | 16,271         | 435,233 |
| March.....         | 291,937                      | 188,548 | 85,275  | 20,731     | 27,100         | 613,591 |
| April.....         | 261,497                      | 131,840 | 46,289  | 21,846     | 31,034         | 492,506 |
| May.....           | 231,751                      | 107,404 | 48,151  | 20,612     | 6,511          | 414,429 |
| June.....          | 250,806                      | 79,129  | 37,401  | 28,920     | 19,045         | 415,302 |
| July.....          | 221,318                      | 124,108 | 23,167  | 23,488     | 10,970         | 403,051 |
| August.....        | 257,600                      | 175,768 | 15,527  | 21,202     | 17,122         | 487,219 |
| September.....     | 277,984                      | 160,534 | 10,889  | 23,038     | 58,189         | 530,634 |
| October.....       | 262,440                      | 226,431 | 27,828  | 20,516     | 33,960         | 571,175 |
| November.....      | 301,680                      | 192,594 | 14,997  | 18,444     | 11,302         | 539,017 |
| December.....      | 312,225                      | 198,287 | 21,113  | 15,601     | 28,443         | 575,669 |
| January, 1922..... | 279,870                      | 153,315 | 30,271  | 18,398     | 31,910         | 513,764 |
| February.....      | 273,996                      | 146,572 | 30,477  | 19,061     | 17,899         | 488,005 |
| Average month..... | 273,884                      | 148,012 | 37,886  | 22,079     | 22,728         | 504,589 |

## DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.             | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|--------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| January, 1921..... | 163,295                      | 170,861                      | 56,082    | 94,583       | 32,898         | 517,719 |
| February.....      | 119,271                      | 168,904                      | 66,958    | 62,507       | 17,593         | 435,233 |
| March.....         | 139,889                      | 146,075                      | 118,653   | 153,910      | 55,664         | 613,591 |
| April.....         | 141,584                      | 135,622                      | 131,637   | 64,155       | 19,508         | 492,506 |
| May.....           | 125,091                      | 103,143                      | 82,499    | 82,582       | 21,114         | 414,429 |
| June.....          | 143,217                      | 106,369                      | 83,063    | 46,298       | 36,355         | 415,302 |
| July.....          | 194,358                      | 45,391                       | 63,969    | 58,062       | 41,271         | 403,051 |
| August.....        | 164,577                      | 106,886                      | 94,486    | 70,551       | 50,719         | 487,219 |
| September.....     | 268,758                      | 90,105                       | 80,242    | 53,309       | 38,220         | 530,634 |
| October.....       | 280,483                      | 78,532                       | 100,332   | 69,057       | 42,771         | 571,175 |
| November.....      | 216,092                      | 107,721                      | 95,216    | 78,493       | 41,495         | 539,017 |
| December.....      | 188,615                      | 115,980                      | 136,940   | 84,391       | 49,743         | 575,669 |
| January, 1922..... | 170,927                      | 112,160                      | 100,878   | 83,526       | 46,273         | 513,764 |
| February.....      | 151,388                      | 107,476                      | 107,197   | 94,271       | 27,673         | 488,005 |
| Average month..... | 172,009                      | 123,995                      | 93,568    | 77,542       | 37,475         | 504,589 |

## ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.             | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|--------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| January, 1921..... | 151,034                      | 230,437                      | 26,843    | 115,206      | 53,084         | 576,604 |
| February.....      | 173,815                      | 226,242                      | 22,473    | 34,616       | 24,459         | 481,605 |
| March.....         | 163,294                      | 203,002                      | 28,525    | 62,652       | 41,754         | 499,227 |
| April.....         | 139,495                      | 168,585                      | 29,756    | 85,560       | 38,601         | 462,997 |
| May.....           | 174,128                      | 137,258                      | 12,407    | 81,086       | 45,309         | 450,188 |
| June.....          | 176,521                      | 112,474                      | 18,740    | 75,400       | 23,040         | 346,175 |
| July.....          | 174,412                      | 99,745                       | 41,084    | 70,124       | 22,197         | 407,562 |
| August.....        | 229,629                      | 110,248                      | 20,628    | 68,661       | 48,894         | 478,067 |
| September.....     | 218,453                      | 84,212                       | 14,762    | 30,814       | 46,262         | 394,503 |
| October.....       | 252,645                      | 124,560                      | 37,720    | 41,436       | 42,018         | 498,379 |
| November.....      | 189,942                      | 123,381                      | 23,556    | 6,481        | 56,934         | 403,394 |
| December.....      | 195,969                      | 135,952                      | 28,194    | 39,616       | 41,844         | 441,575 |
| January, 1922..... | 152,992                      | 100,224                      | 16,860    | 27,172       | 35,504         | 332,752 |
| February.....      | 142,693                      | 110,778                      | 21,594    | 42,950       | 80,515         | 398,530 |
| Average month..... | 176,838                      | 140,908                      | 25,764    | 56,853       | 58,489         | 446,144 |

## DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.             | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|--------------------|---------|------------------------------|---------|------------|----------------|---------|
| January, 1921..... | 293,836 | 188,133                      | 49,947  | 23,295     | 21,393         | 576,604 |
| February.....      | 175,324 | 163,690                      | 74,363  | 18,056     | 50,174         | 481,605 |
| March.....         | 190,683 | 139,793                      | 83,700  | 21,228     | 13,823         | 499,227 |
| April.....         | 189,209 | 197,311                      | 53,334  | 22,043     | 1,100          | 462,997 |
| May.....           | 201,548 | 140,940                      | 73,705  | 21,549     | 12,446         | 450,188 |
| June.....          | 155,147 | 136,292                      | 18,324  | 26,112     | 10,300         | 346,175 |
| July.....          | 205,690 | 134,047                      | 23,123  | 28,770     | 15,932         | 407,562 |
| August.....        | 231,830 | 194,279                      | 27,256  | 22,022     | 2,670          | 478,057 |
| September.....     | 204,820 | 140,555                      | 26,478  | 17,114     | 5,536          | 394,503 |
| October.....       | 259,613 | 170,189                      | 18,222  | 30,955     | 19,400         | 498,379 |
| November.....      | 196,974 | 164,345                      | 20,446  | 16,760     | 4,869          | 403,394 |
| December.....      | 191,277 | 192,575                      | 25,550  | 21,739     | 10,434         | 441,575 |
| January, 1922..... | 115,392 | 168,337                      | 26,831  | 16,489     | 5,703          | 332,752 |
| February.....      | 163,919 | 172,900                      | 31,767  | 18,242     | 11,702         | 398,530 |
| Average month..... | 200,712 | 166,968                      | 42,163  | 22,874     | 13,427         | 446,144 |

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of February, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

|                                  | Tonnage routed to— |                    | Tonnage routed from— |                    |
|----------------------------------|--------------------|--------------------|----------------------|--------------------|
|                                  | Per cent increase. | Per cent decrease. | Per cent increase.   | Per cent decrease. |
| Europe.....                      |                    | 18.5               |                      | 1.0                |
| East coast of United States..... | 3.6                |                    | 0.1                  |                    |
| East coast of Mexico.....        |                    | 24.7               |                      | 20.0               |
| Cristobal, C. Z.....             |                    | 20.5               |                      | 14.0               |
| West coast of United States..... |                    | 20.0               |                      | 20.0               |
| West coast of South America..... |                    | 13.2               |                      | 21.3               |
| Australasia.....                 | 21.7               |                    |                      | 24.8               |
| Far East.....                    | 14.8               |                    |                      | 16.3               |

## TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of February, 1922, has been previously compiled and was published in THE PANAMA CANAL RECORD under date of March 8, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes for the month of February, 1922, for the preceding month, and for the corresponding month of last year:

| Vessels plying between—              | Atlantic to Pacific.      |                   |                    | Pacific to Atlantic.      |                   |                    |
|--------------------------------------|---------------------------|-------------------|--------------------|---------------------------|-------------------|--------------------|
|                                      | February<br>1922.         | January.<br>1922. | February.<br>1921. | February.<br>1922.        | January.<br>1922. | February.<br>1921. |
|                                      | Number of vessels.        |                   |                    | Number of vessels.        |                   |                    |
| United States coastwise.....         | 25                        | 28                | 15                 | 19                        | 20                | 17                 |
| United States and Far East.....      | 17                        | 15                | 15                 | 3                         | 2                 | 4                  |
| Europe and United States.....        | 4                         | 7                 | 2                  | 9                         | 7                 | 13                 |
| United States and South America..... | 11                        | 11                | 26                 | 12                        | 9                 | 17                 |
| Europe and South America.....        | 10                        | 12                | 9                  | 11                        | 11                | 20                 |
| Cristobal and South America.....     | 12                        | 10                | 9                  | 10                        | 10                | 11                 |
| Europe and Australasia.....          | 9                         | 10                | 4                  | 5                         | 4                 | 5                  |
| United States and Australasia.....   | 4                         | 4                 | 6                  | 1                         | 2                 | 2                  |
| Europe and Canada.....               | 2                         | 4                 |                    | 6                         | 4                 |                    |
| Mexico and United States.....        |                           |                   | 4                  | 1                         | 1                 | 6                  |
| Mexico and South America.....        | 4                         | 4                 | 5                  | 2                         | 3                 | 7                  |
| Miscellaneous.....                   | 16                        | 20                | 19                 | 19                        | 12                | 25                 |
| Totals.....                          | 114                       | 125               | 114                | 98                        | 85                | 127                |
|                                      | Panama Canal net tonnage. |                   |                    | Panama Canal net tonnage. |                   |                    |
|                                      | February<br>1922.         | January.<br>1922. | February.<br>1921. | February.<br>1922.        | January.<br>1922. | February.<br>1921. |
|                                      | Number of vessels.        |                   |                    | Number of vessels.        |                   |                    |
| United States coastwise.....         | 117,512                   | 138,928           | 80,940             | 89,862                    | 108,921           | 66,043             |
| United States and Far East.....      | 87,553                    | 81,449            | 66,958             | 17,190                    | 10,475            | 20,893             |
| Europe and United States.....        | 21,827                    | 28,243            | 11,022             | 41,867                    | 31,964            | 62,475             |
| United States and South America..... | 31,968                    | 32,227            | 88,942             | 40,011                    | 29,283            | 55,590             |
| Europe and South America.....        | 39,657                    | 45,525            | 39,660             | 46,101                    | 42,789            | 88,139             |
| Cristobal and South America.....     | 15,278                    | 13,936            | 12,704             | 14,312                    | 12,749            | 13,477             |
| Europe and Australasia.....          | 63,962                    | 57,000            | 24,850             | 32,664                    | 18,560            | 24,710             |
| United States and Australasia.....   | 22,048                    | 22,366            | 25,631             | 6,216                     | 8,612             | 9,906              |
| Europe and Canada.....               | 11,076                    | 18,615            |                    | 33,689                    | 22,079            |                    |
| Mexico and United States.....        |                           |                   | 19,786             | 6,050                     | 5,043             | 28,804             |
| Mexico and South America.....        | 20,573                    | 20,472            | 27,598             | 10,354                    | 15,403            | 34,770             |
| Miscellaneous.....                   | 56,551                    | 55,003            | 37,142             | 60,214                    | 26,874            | 76,798             |
| Totals.....                          | 488,005                   | 513,764           | 435,233            | 398,530                   | 332,752           | 481,005            |
|                                      | Tons of cargo carried.    |                   |                    | Tons of cargo carried.    |                   |                    |
|                                      | February<br>1922.         | January.<br>1922. | February.<br>1921. | February.<br>1922.        | January.<br>1922. | February.<br>1921. |
|                                      | Number of vessels.        |                   |                    | Number of vessels.        |                   |                    |
| United States coastwise.....         | 94,548                    | 119,413           | 67,302             | 84,330                    | 86,862            | 68,345             |
| United States and Far East.....      | 133,506                   | 121,939           | 93,193             | 19,959                    | 14,845            | 24,098             |
| Europe and United States.....        | 6,700                     | 20,877            | 2,400              | 61,122                    | 48,186            | 93,417             |
| United States and South America..... | 23,921                    | 16,702            | 105,339            | 48,333                    | 30,848            | 62,259             |
| Europe and South America.....        | 24,366                    | 17,912            | 22,552             | 57,139                    | 53,813            | 112,397            |
| Cristobal and South America.....     | 3,645                     | 2,258             | 3,249              | 4,723                     | 6,194             | 4,308              |
| Europe and Australasia.....          | 30,294                    | 46,096            | 17,342             | 28,081                    | 20,279            | 23,771             |
| United States and Australasia.....   | 25,535                    | 22,634            | 39,406             | 9,200                     | 8,800             | 3,122              |
| Europe and Canada.....               | 9,453                     | 15,872            |                    | 49,181                    | 25,395            |                    |
| Mexico and United States.....        |                           |                   | 36,525             |                           |                   | 1,200              |
| Mexico and South America.....        | 27,037                    | 37,152            | 46,128             |                           |                   | 230                |
| Miscellaneous.....                   | 63,820                    | 72,736            | 41,436             | 33,181                    | 17,485            | 84,882             |
| Totals.....                          | 442,825                   | 493,591           | 474,872            | 395,249                   | 313,707           | 478,032            |

## VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships, and other noncargo-carrying vessels, are shown in the following tabulation:

|                    | Atlantic to Pacific. |                                 |             | Pacific to Atlantic. |                                 |             |
|--------------------|----------------------|---------------------------------|-------------|----------------------|---------------------------------|-------------|
|                    | No.<br>of<br>ships.  | Panama<br>Canal net<br>tonnage. | Tolls.      | No.<br>of<br>ships.  | Panama<br>Canal net<br>tonnage. | Tolls.      |
| British.....       | 6                    | 27,390                          | \$24,116.17 | 4                    | 18,173                          | \$13,252.71 |
| French.....        |                      |                                 |             | 1                    | 2,096                           | 1,616.25    |
| Japanese.....      | 1                    | 5,979                           | 6,467.50    |                      |                                 |             |
| Norwegian.....     |                      |                                 |             | 1                    | 5,043                           | 3,630.96    |
| United States..... | 4                    | 11,141                          | 8,031.99    | 5                    | 18,425                          | 13,266.00   |
| Totals.....        | 11                   | 44,510                          | 38,615.66   | 11                   | 43,737                          | 31,765.92   |

## LATIN-AMERICAN TRAFFIC.

The following tabulations show the number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality:



## ATLANTIC TO PACIFIC.

| Nationality.                | No.<br>of<br>ships. | Tonnage.                        |                         |             |         | Tolls.      | Tons<br>of cargo |
|-----------------------------|---------------------|---------------------------------|-------------------------|-------------|---------|-------------|------------------|
|                             |                     | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered. |         |             |                  |
|                             |                     |                                 |                         | Gross.      | Net.    |             |                  |
| British.....                | 17                  | 32,674                          | 41,803                  | 54,658      | 33,704  | \$38,366.72 | 32,270           |
| Chilean.....                | 3                   | 5,840                           | 8,780                   | 12,488      | 6,886   | 7,300.00    | 4,066            |
| Danish.....                 | 1                   | 2,438                           | 2,485                   | 2,465       | 1,685   | 3,047.50    | 4,246            |
| Dutch.....                  | 2                   | 4,556                           | 5,827                   | 7,311       | 4,504   | 5,695.00    | 2,850            |
| French.....                 | 1                   | 3,600                           | 4,146                   | 5,765       | 3,681   | 4,500.00    | 1,090            |
| German.....                 | 2                   | 9,156                           | 9,933                   | 12,022      | 7,554   | 11,134.30   | 4,315            |
| Japanese.....               | 1                   | 5,513                           | 6,385                   | 9,049       | 6,552   | 6,891.25    | 8,000            |
| Norwegian.....              | 5                   | 12,609                          | 15,107                  | 20,190      | 12,613  | 15,761.25   | 23,894           |
| Peruvian.....               | 2                   | 3,021                           | 5,910                   | 9,361       | 5,100   | 3,776.25    | 901              |
| Swedish.....                | 1                   | 1,338                           | 1,431                   | 2,242       | 1,595   | 1,672.50    | 1,769            |
| United States.....          | 11                  | 24,321                          | 28,994                  | 38,420      | 23,885  | 28,329.13   | 24,058           |
| Totals, February, 1922..... | 46                  | 105,066                         | 130,801                 | 173,971     | 107,759 | 126,473.90  | 107,459          |
| Totals, January, 1922.....  | 53                  | 125,593                         | 157,920                 | 206,237     | 128,918 | 154,248.53  | 138,640          |
| Totals, February, 1921..... | 67                  | 180,148                         | 217,954                 | 282,755     | 179,204 | 221,102.65  | 252,149          |

## PACIFIC TO ATLANTIC.

| Nationality.                     | No. of ships. | Tonnage.                  |                   |             |         | Tolls.      | Tons of cargo. |
|----------------------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                                  |               | United States equivalent. | Panama Canal net. | Registered. |         |             |                |
|                                  |               |                           |                   | Gross.      | Net.    |             |                |
| British . . . . .                | 20            | 50,599                    | 58,680            | 80,766      | 51,317  | \$55,486.61 | 48,143         |
| Chilean . . . . .                | 2             | 3,086                     | 5,338             | 6,527       | 3,905   | 3,857.50    | 468            |
| Dutch . . . . .                  | 1             | 2,012                     | 3,120             | 3,209       | 1,989   | 2,515.00    | 4,230          |
| French . . . . .                 | 2             | 5,302                     | 6,076             | 8,283       | 5,342   | 5,550.00    | 5,163          |
| German . . . . .                 | 4             | 9,690                     | 11,898            | 13,697      | 8,336   | 11,870.85   | 13,746         |
| Italian . . . . .                | 2             | 5,822                     | 7,299             | 10,048      | 6,050   | 7,277.50    | 1,110          |
| Norwegian . . . . .              | 3             | 10,530                    | 11,741            | 15,521      | 10,528  | 10,995.01   | 10,043         |
| Peruvian . . . . .               | 2             | 3,021                     | 5,910             | 9,361       | 5,100   | 3,776.25    | 3,552          |
| Swedish . . . . .                | 1             | 1,091                     | 1,213             | 1,824       | 1,085   | 1,363.75    | 2,250          |
| United States . . . . .          | 11            | 30,017                    | 37,672            | 49,627      | 30,140  | 34,152.98   | 29,042         |
| Totals, February, 1922 . . . . . | 48            | 121,170                   | 148,947           | 198,863     | 123,792 | 136,845.45  | 117,747        |
| Totals, January, 1922 . . . . .  | 43            | 97,282                    | 122,476           | 163,863     | 100,454 | 111,178.08  | 96,515         |
| Totals, February, 1921 . . . . . | 80            | 228,106                   | 275,552           | 360,913     | 224,345 | 256,138.79  | 243,900        |

## CLASSIFICATION OF COMMERCIAL TRAFFIC.

A statement of this month's commercial traffic, classified by nationality of vessels, is shown in the following tabulation:

| Nationality.              | No. of ships. | Tonnage.                  |                   |             |         | Tolls.       | Tons of cargo. |
|---------------------------|---------------|---------------------------|-------------------|-------------|---------|--------------|----------------|
|                           |               | United States equivalent. | Panama Canal net. | Registered. |         |              |                |
|                           |               |                           |                   | Gross.      | Net.    |              |                |
| From Atlantic to Pacific. |               |                           |                   |             |         |              |                |
| British.....              | 41            | 151,346                   | 185,907           | 225,628     | 141,528 | \$182,973.57 | 154,647        |
| Chilean.....              | 3             | 5,840                     | 8,780             | 12,488      | 6,886   | 7,300.00     | 4,066          |
| Danish.....               | 1             | 2,438                     | 2,485             | 2,465       | 1,685   | 3,047.50     | 4,246          |
| Dutch.....                | 2             | 4,556                     | 5,827             | 7,311       | 4,504   | 5,695.00     | 2,850          |
| French.....               | 1             | 3,600                     | 4,146             | 5,765       | 3,681   | 4,500.00     | 1,090          |
| German.....               | 2             | 9,156                     | 9,933             | 12,022      | 7,554   | 11,134.30    | 4,315          |
| Japanese.....             | 9             | 40,220                    | 44,946            | 60,074      | 40,773  | 49,555.55    | 57,176         |
| Norwegian.....            | 5             | 12,609                    | 15,107            | 20,190      | 12,613  | 15,761.25    | 23,894         |
| Peruvian.....             | 2             | 3,021                     | 5,910             | 9,361       | 5,100   | 3,776.25     | 901            |
| Swedish.....              | 2             | 3,641                     | 5,400             | 6,044       | 4,434   | 4,551.25     | 3,154          |
| United States.....        | 46            | 158,390                   | 199,564           | 243,975     | 156,199 | 194,638.74   | 186,486        |
| Totals.....               | 114           | 394,817                   | 488,005           | 605,323     | 384,957 | 482,933.41   | 442,825        |
| From Pacific to Atlantic. |               |                           |                   |             |         |              |                |
| British.....              | 33            | 104,068                   | 125,753           | 163,008     | 103,743 | 127,679.36   | 121,426        |
| Chilean.....              | 2             | 3,086                     | 5,338             | 6,527       | 3,905   | 3,857.50     | 468            |
| Danish.....               | 1             | 4,131                     | 4,507             | 4,088       | 2,506   | 5,163.75     | 6,364          |
| Dutch.....                | 2             | 6,486                     | 10,031            | 10,519      | 6,484   | 8,107.50     | 13,923         |
| French.....               | 4             | 12,440                    | 14,010            | 18,533      | 11,871  | 14,387.20    | 16,340         |
| German.....               | 4             | 9,690                     | 11,898            | 13,697      | 8,336   | 11,870.85    | 13,746         |

| Nationality.                    | No. of ships. | Tonnage.                  |                   |             |         | Tolls.     | Tons of cargo. |
|---------------------------------|---------------|---------------------------|-------------------|-------------|---------|------------|----------------|
|                                 |               | United States equivalent. | Panama Canal net. | Registered. |         |            |                |
|                                 |               |                           |                   | Gross.      | Net.    |            |                |
| From Pacific to Atlantic—Contd. |               |                           |                   |             |         |            |                |
| Italian.....                    | 2             | 5,822                     | 7,299             | 10,048      | 6,050   | \$7,277.50 | 1,110          |
| Norwegian.....                  | 4             | 13,576                    | 15,627            | 20,415      | 13,582  | 14,802.51  | 16,443         |
| Peruvian.....                   | 2             | 3,021                     | 5,910             | 9,361       | 5,100   | 3,776.25   | 3,552          |
| Swedish.....                    | 2             | 3,377                     | 5,226             | 5,588       | 3,937   | 4,221.25   | 8,234          |
| United States.....              | 42            | 150,034                   | 192,931           | 237,929     | 149,655 | 182,189.10 | 193,643        |
| Totals.....                     | 98            | 315,731                   | 398,530           | 499,713     | 315,169 | 383,332.77 | 395,249        |
| Combined traffic both ways.     |               |                           |                   |             |         |            |                |
| British.....                    | 74            | 255,414                   | 311,660           | 388,636     | 245,271 | 310,652.93 | 276,073        |
| Chilean.....                    | 5             | 8,926                     | 14,118            | 19,015      | 10,791  | 11,157.50  | 4,534          |
| Danish.....                     | 2             | 6,569                     | 6,992             | 6,553       | 4,191   | 8,211.25   | 10,610         |
| Dutch.....                      | 4             | 11,042                    | 15,858            | 17,830      | 10,983  | 13,802.50  | 16,773         |
| French.....                     | 5             | 16,040                    | 18,156            | 24,298      | 15,552  | 19,887.20  | 17,430         |
| German.....                     | 6             | 18,846                    | 21,831            | 25,719      | 15,890  | 23,005.15  | 18,061         |
| Japanese.....                   | 9             | 40,220                    | 44,946            | 60,074      | 40,773  | 49,555.55  | 57,176         |
| Italian.....                    | 2             | 5,822                     | 7,299             | 10,048      | 6,050   | 7,277.50   | 1,110          |
| Norwegian.....                  | 9             | 26,185                    | 30,734            | 40,605      | 26,195  | 30,563.76  | 40,337         |
| Peruvian.....                   | 4             | 6,042                     | 11,820            | 18,722      | 10,200  | 7,552.50   | 4,453          |
| Swedish.....                    | 4             | 7,018                     | 10,626            | 11,632      | 8,371   | 8,772.50   | 11,388         |
| United States.....              | 88            | 308,424                   | 392,495           | 481,904     | 305,854 | 376,827.84 | 380,129        |
| Totals.....                     | 212           | 710,548                   | 886,535           | 1,105,036   | 700,126 | 866,266.18 | 838,074        |

A further classification of the commercial traffic is shown below:

|                         | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|-------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                         | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels: |                      |                           |              |                      |                           |              |
| Laden.....              | 103                  | 443,495                   | \$444,317.75 | 86                   | 354,793                   | \$346,077.85 |
| Ballast.....            | 11                   | 44,510                    | 38,615.66    | 11                   | 43,737                    | 31,765.92    |
| Cruiser.....            |                      |                           |              | 1                    | (*)                       | 5,489.00     |
| Totals.....             | 114                  | 488,005                   | 482,933.41   | 98                   | 398,530                   | 383,332.77   |
| Steamships.....         | 109                  | 479,024                   | 476,417.94   | 91                   | 384,285                   | 363,091.01   |
| Motor ships.....        | 2                    | 8,798                     | 6,355.63     | 3                    | 13,627                    | 14,247.50    |
| Motor schooners.....    | 2                    | 144                       | 130.59       | 2                    | 135                       | 157.50       |
| Yachts.....             | 1                    | 39                        | 29.25        | 1                    | 483                       | 347.76       |
| Cruiser.....            |                      |                           |              | 1                    | (*)                       | 5,489.00     |
| Totals.....             | 114                  | 488,005                   | 482,933.41   | 98                   | 398,530                   | 383,332.77   |

\* Displacement tonnage, 10,978.

#### CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of February, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated. This statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Panama Canal; these are not included in the commercial traffic:

|                                      | Atlantic to Pacific. |                           |           | Pacific to Atlantic. |                           |          |
|--------------------------------------|----------------------|---------------------------|-----------|----------------------|---------------------------|----------|
|                                      | No. of ships.        | Panama Canal net tonnage. | Tolls.    | No. of ships.        | Panama Canal net tonnage. | Tolls.   |
| United States naval vessels:         |                      |                           |           |                      |                           |          |
| Subchaser.....                       | 1                    | 61                        | \$30.50   | 1                    | 61                        | \$30.50  |
| Supply ship.....                     | 1                    | 10,600                    | 5,300.00  |                      |                           |          |
| Tugs.....                            | 3                    | 2,750                     | 1,375.00  |                      |                           |          |
| Transport.....                       |                      |                           |           | 1                    | 4,840                     | 2,420.00 |
| United States Army mine planter..... | 1                    | 138                       | 99.36     |                      |                           |          |
| Commercial vessels for repairs.....  | 2                    | 5,957                     | 5,292.61  | 2                    | 5,957                     | 5,292.61 |
| Launches.....                        | 5                    | 18                        | 18.90     |                      |                           |          |
| Total noncommercial.....             | 13                   | 13,411<br>6,113           | 12,116.37 | 4                    | 4,901<br>5,957            | 7,743.11 |

\* Indicates displacement tonnage.

## Cargo through the Panama Canal free of tolls:

|                          |       |
|--------------------------|-------|
|                          | Tons. |
| Atlantic to Pacific..... | 3,484 |
| Pacific to Atlantic..... | 350   |
| Total.....               | 3,834 |

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of February, 1922, are shown in the following tabulations:

|                                                                    | Cristobal. | Balboa. | Totals.   |
|--------------------------------------------------------------------|------------|---------|-----------|
| Local cargo arriving..... tons.                                    | 48,990     | 6,914   | 55,904    |
| Local cargo shipped..... tons.                                     | 2,751      | 297     | 3,048     |
| Transit cargo arriving..... tons.                                  | 842,836    | 839,806 | 1,682,642 |
| Transit cargo clearing..... tons.                                  | 845,254    | 844,766 | 1,690,020 |
| Cargo received for transshipment..... tons.                        | 19,375     | 1       | 19,376    |
| Cargo transhipped..... tons.                                       | 20,281     | 78      | 20,359    |
| Cargo handled by Receiving and Forwarding Agency, Panama Railroad: |            |         |           |
| Received..... tons.                                                | 29,439     | 818     | 30,257    |
| Dispatched..... tons.                                              | 25,680     | 477     | 26,157    |
| Rehandled..... tons.                                               | 481        | 14      | 495       |
| Stevedored..... tons.                                              | 21,283     | 827     | 22,110    |
| Vessels supplied with bunker coal:                                 |            |         |           |
| Commercial, other than Panama Railroad.....                        | 59         | 5       | 64        |
| Panama Railroad vessels.....                                       | 5          |         | 5         |
| United States Army vessels.....                                    | 4          |         | 4         |
| Total vessels supplied with bunker coal.....                       | 68         | 5       | 73        |
| Coal supplied to above vessels:                                    |            |         |           |
| Commercial, other than Panama Railroad..... tons.                  | 19,569     | 1,412   | 20,981    |
| Panama Railroad vessels..... tons.                                 | 1,299      |         | 1,299     |
| United States Army vessels..... tons.                              | 54         |         | 54        |
| Total coal supplied to vessels..... tons.                          | 20,922     | 1,412   | 22,334    |
| Coal issues, miscellaneous:                                        |            |         |           |
| Panama Canal departments..... tons.                                | 674        | 104     | 778       |
| Panama Railroad, excepting vessels..... tons.                      | 24         |         | 24        |
| United States Army, excepting vessels..... tons.                   | 217        | 29      | 246       |
| Individuals and companies..... tons.                               | 346        |         | 346       |
| Total miscellaneous..... tons.                                     | 1,261      | 133     | 1,394     |
| Total issues from Panama Canal deposits:                           |            |         |           |
| February, 1922..... tons.                                          | 22,183     | 1,545   | 23,728    |
| January, 1922..... tons.                                           | 19,496     | 993     | 20,489    |
| February, 1921..... tons.                                          | 31,391     | 2,539   | 33,930    |
| Coal on hand, March 1, 1922..... tons.                             | 132,610    | 27,361  | 159,971   |
| Coal on hand, February 1, 1922..... tons.                          | 154,793    | 28,906  | 183,699   |
| <i>United States Navy coal account.</i>                            |            |         |           |
| Issued to United States Navy, including vessels..... tons.         | 441        | 205     | 646       |
| Coal on hand, March 1, 1922..... tons.                             | 61,508     | 16,809  | 78,317    |
| Coal on hand, February 1, 1922..... tons.                          | 61,949     | 17,014  | 78,963    |
| Fuel oil issues:                                                   |            |         |           |
| Panama Canal departments..... bbls.                                | 4,778      | 15,373  | 20,151    |
| Panama Railroad..... bbls.                                         | 447        |         | 447       |
| Army and Navy..... bbls.                                           | 606        |         | 606       |
| Individuals and companies..... bbls.                               |            | 35      | 35        |
| Total issues and sales..... bbls.                                  | 5,831      | 15,408  | 21,239    |
| Fuel oil on hand, March 1, 1922..... bbls.                         | 44,396     | 89,771  | 134,167   |
| Fuel oil on hand, February 1, 1922..... bbls.                      | 50,227     | 69,211  | 119,438   |
| Received during February, 1922..... bbls.                          |            | 35,968  | 35,968    |
| Diesel oil issued during February, 1922..... bbls.                 | 13         |         | 13        |
| Diesel oil on hand March 1, 1922..... bbls.                        | 50,784     | 915     | 51,699    |
| Diesel oil on hand, February 1, 1922..... bbls.                    | 50,797     | 915     | 51,712    |
| Oil pumped for individuals and companies..... bbls.                | 437,079    | 73,042  | 510,121   |
| Miscellaneous transfers..... bbls.                                 | 1,916      |         | 1,916     |
| Total oil handled..... bbls.                                       | 444,840    | 124,418 | 569,258   |
| Admeasurement certificates:                                        |            |         |           |
| United States equivalent issued or made.....                       | 19         | 3       | 22        |
| Measured for Panama Canal net tonnage.....                         | 3          | 1       | 4         |
| United States equivalent or Panama Canal tonnage corrected.....    | 36         | 28      | 64        |

|                                         | Cristobal. | Balboa. | Totals. |
|-----------------------------------------|------------|---------|---------|
| Services of harbor equipment:           |            |         |         |
| Tugs, total operating hours             | 380        | 125     | 505     |
| Launches, total operating hours         | 1,022      | 870     | 1,892   |
| Vessels repaired at Panama Canal shops: |            |         |         |
| Commercial                              | 36         | 12      | 48      |
| United States Government                | 4          | 3       | 7       |
| Canal equipment                         | 5          | 20      | 25      |
| Vessels dry-docked:                     |            |         |         |
| Commercial                              | 4          | 4       | 8       |
| United States Government                | 1          | 1       | 2       |
| Canal equipment                         | 3          | 4       |         |
| Clearances issued                       | 136        | 122     | 258     |
| Bills of health issued                  | 131        | 122     | 253     |

## ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal:

|                                                               | Port of Cristobal. |                   |                 | Port of Balboa. |                   |                 |
|---------------------------------------------------------------|--------------------|-------------------|-----------------|-----------------|-------------------|-----------------|
|                                                               | No. of ships.      | Tonnage.          |                 | No. of ships.   | Tonnage.          |                 |
|                                                               |                    | Registered gross. | Registered net. |                 | Registered gross. | Registered net. |
| Ships entering.                                               |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting the Canal             | 249                | 1,370,363         | 869,296         | 223             | 1,179,592         | 751,454         |
| Vessels entering port but not transiting the Canal            | 48                 | 256,593           | 154,815         | 6               | 25,112            | 15,552          |
| Vessels transiting the Canal and handling passengers or cargo | 48                 | 204,570           | 123,777         | 40              | 148,846           | 89,986          |
| Ships clearing.                                               |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting the Canal             | 252                | 1,364,545         | 864,818         | 224             | 1,165,350         | 744,139         |
| Vessels entering port but not transiting the Canal            | 49                 | 252,883           | 150,641         | 7               | 28,820            | 17,853          |
| Vessels transiting Canal and handling passengers or cargo     | 49                 | 203,384           | 122,885         | 41              | 142,163           | 86,549          |

## COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of February, 1922:

|                           | Ice.     | Groceries. | Cold storage. | Laundry.   | Miscellaneous. | Total.     |
|---------------------------|----------|------------|---------------|------------|----------------|------------|
| Sales at Cristobal to—    |          |            |               |            |                |            |
| U. S. Government vessels. | \$72.36  | \$51.03    | \$287.52      |            | \$28.84        | \$439.75   |
| Panama Railroad vessels   | 54.00    | 694.89     | 3,879.54      |            | 598.45         | 5,226.88   |
| Other commercial vessels  | 1,316.56 | 1,971.57   | 14,250.12     |            | 692.61         | 18,230.86  |
| Totals, February, 1922    | 1,442.92 | 2,717.49   | 18,417.18     |            | 1,319.90       | 23,897.49  |
| Totals, January, 1922     | 1,579.51 | 15,558.24  | 3,105.54      |            | 968.55         | 21,211.84  |
| Totals, February, 1921    | 2,794.41 | 8,461.11   | 44,316.50     | \$5,133.60 | 4,659.88       | 65,365.50  |
| Sales at Balboa to—       |          |            |               |            |                |            |
| U. S. Government vessels  | 49.52    | 597.14     | 870.59        |            | 1.38           | 1,518.63   |
| Other commercial vessels  | 311.34   | 2,551.13   | 11,363.24     |            | 1,040.45       | 15,266.16  |
| Totals, February, 1922    | 360.86   | 3,148.27   | 12,233.83     |            | 1,041.83       | 16,784.79  |
| Totals, January, 1922     | 474.40   | 4,082.16   | 12,320.07     | 69.30      | 1,324.62       | 18,270.55  |
| Totals, February, 1921    | 2,981.76 | 14,994.75  | 94,814.40     | 2,562.82   | 21,053.93      | 136,407.66 |



## MOVEMENTS OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of February, 1922:

|                                  | At Cristobal. |         |        | At Balboa.   |         |        |
|----------------------------------|---------------|---------|--------|--------------|---------|--------|
|                                  | First class.  | Others. | Total. | First class. | Others. | Total. |
| Disembarking:                    |               |         |        |              |         |        |
| From Atlantic ports.             | 814           | 799     | 1,613  |              |         |        |
| From Pacific ports.              | 194           | 54      | 248    | 156          | 26      | 182    |
| Total disembarking.              | 1,008         | 853     | 1,861  | 156          | 26      | 182    |
| Embarking:                       |               |         |        |              |         |        |
| For Atlantic ports.              | 829           | 711     | 1,540  | 4            |         | 4      |
| For Pacific ports.               | 210           | 36      | 246    | 109          | 85      | 194    |
| Total embarking.                 | 1,039         | 747     | 1,786  | 113          | 85      | 198    |
| Remaining on board vessels:      |               |         |        |              |         |        |
| From Atlantic to Pacific ports.  | 659           | 2,236   | 2,895  | 626          | 2,332   | 2,958  |
| From Pacific to Atlantic ports.  | 349           | 308     | 657    | 544          | 397     | 941    |
| From Atlantic to Atlantic ports. | 888           | 97      | 985    |              |         |        |
| From Pacific to Pacific ports.   |               |         |        | 13           | 376     | 389    |
| Total remaining on board.        | 1,896         | 2,641   | 4,537  | 1,183        | 3,105   | 4,288  |
| Total passengers departing.      | 2,935         | 3,388   | 6,323  | 1,255        | 3,163   | 4,418  |
| Total passengers arriving.       | 2,904         | 3,494   | 6,398  | 1,339        | 3,131   | 4,470  |

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks, and the consumption of water for lockages, for the month of February, 1922, as compared with that of the preceding month and of the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                                 | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|---------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                 | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.                          | 94          | 107    | 201    | 3              | 2      | 5      | 206          |
| Pedro Miguel.                   | 97          | 111    | 208    | 6              | 10     | 16     | 224          |
| Miraflores.                     | 88          | 101    | 189    | 4              | 5      | 9      | 198          |
| Total lockages, February, 1922. | 279         | 319    | 598    | 13             | 17     | 30     | 628          |
| Total lockages, January, 1922.  | 246         | 351    | 597    | 44             | 42     | 86     | 683          |
| Total lockages, February, 1921. | 362         | 338    | 700    |                |        | 71     | 771          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|--------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.                         | 104         | 121    | 225    | 13             | 17     | 30     | 255          |
| Pedro Miguel.                  | 100         | 116    | 216    | 20             | 20     | 40     | 256          |
| Miraflores.                    | 100         | 116    | 216    | 19             | 17     | 36     | 252          |
| Total vessels, February, 1922. | 304         | 353    | 657    | 52             | 54     | 106    | 763          |
| Total vessels, January, 1922.  | 263         | 384    | 647    | 92             | 105    | 197    | 844          |
| Total vessels, February, 1921. | 385         | 362    | 747    |                |        | 451    | 1,198        |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                              | Gatun. | Pedro Miguel. | Miraflores. |
|------------------------------|--------|---------------|-------------|
| Army and Navy vessels.       | 12     | 9             | 9           |
| Canal equipment.             | 18     | 31            | 27          |
| Total noncommercial vessels. | 30     | 40            | 36          |

The total consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                        | Gatun.             | Pedro Miguel.      | Miraflores.        |
|----------------------------------------|--------------------|--------------------|--------------------|
|                                        | <i>Cubic feet.</i> | <i>Cubic feet.</i> | <i>Cubic feet.</i> |
| Lockages.....                          | 834,610,000        | 805,470,000        | 633,920,000        |
| Leakage.....                           | 20,000,000         | 16,530,000         | 67,000,000         |
| Maintenance.....                       |                    |                    | 22,040,000         |
| Total consumption, February, 1922..... | 854,610,000        | 822,000,000        | 722,960,000        |
| Total consumption, January, 1922.....  | 861,680,000        | 877,770,000        | 760,150,000        |
| Total consumption, February, 1921..... | 1,030,310,000      | 994,570,000        | 965,240,000        |

#### METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of February, 1922, are shown in comparative form:

| Rainfall.                                       | February, 1922. | February, 1921. | February—Years of record. |                 |                 |
|-------------------------------------------------|-----------------|-----------------|---------------------------|-----------------|-----------------|
|                                                 |                 |                 | Maximum.                  | Minimum.        | Mean.           |
|                                                 | <i>Inches.</i>  | <i>Inches.</i>  | <i>Inches.</i>            | <i>Inches.</i>  | <i>Inches.</i>  |
| Total for month:                                |                 |                 |                           |                 |                 |
| Pacific Section.....                            | 1.33            | 1.63            | 2.51                      | 0.02            | 0.77            |
| Central Section.....                            | .91             | 2.09            | 4.28                      | .19             | 1.34            |
| Atlantic Section.....                           | 1.66            | 3.04            | 13.29                     | .73             | 2.60            |
| Maximum record on any one day.....              | 1.66            | 2.95            | 10.86                     |                 |                 |
| Gatun Lake watershed.....                       | 1.08            | 3.04            | 6.09                      | .27             | 1.86            |
| Chagres River watershed above Alhajuela.....    | 1.48            | 2.97            | 5.92                      | .24             | 1.69            |
| Maximum record for month at any one point.....  | 3.36            | 5.39            | 24.94                     |                 |                 |
| Minimum record for month at any one point.....  |                 | .21             |                           |                 |                 |
| <i>Hydrography.</i>                             |                 |                 |                           |                 |                 |
|                                                 | <i>C. f. s.</i> | <i>C. f. s.</i> | <i>C. f. s.</i>           | <i>C. f. s.</i> | <i>C. f. s.</i> |
| Discharge of Chagres River at Alhajuela.....    | 1,399           | 911             | 3,315                     | 516             | 1,260           |
| Maximum momentary discharge for the month.....  | 2,780           | 1,820           | 170,000                   |                 |                 |
| Gatun Lake watershed total yield.....           | 2,454           | 1,767           | 5,077                     | 705             | 1,979           |
| Gatun Lake watershed net yield.....             | 1,482           | 951             | 4,207                     | -287            | 1,195           |
| Draft on Gatun Lake for lockages and power..... | 2,058           | 2,503           | 2,503                     | 35              | 1,600           |

\* This represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28-29, 1909.

\* This figure represents the maximum momentary discharge on record, occurred on December 26, 1909.

NOTE.—Bocas del Toro not included in data for February, 1922.

#### SEISMOLOGY.

Only one seismic tremor was recorded during the month. This occurred on the evening of the 15th. The epicenter of the disturbance was about 400 miles distant and the indicated probable direction was northwest. This was later confirmed by cable which reported a disturbance in Nicaragua occurring at approximately the time the tremors were recorded at Balboa Heights.

#### ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

|                                                                               | February, 1922. | January, 1922. | February, 1921. |
|-------------------------------------------------------------------------------|-----------------|----------------|-----------------|
| Gross output, KWH:                                                            |                 |                |                 |
| Gatun hydroelectric station.....                                              | 4,241,600       | 4,811,800      | 5,941,900       |
| Miraflores steam plant.....                                                   | 10,600          | 250            | 30,610          |
| Combined gross output.....                                                    | 4,252,200       | 4,812,050      | 5,972,510       |
| Water consumption..... cubic feet.                                            | 3,339,809,600   | 3,657,240,000  | 4,006,074,000   |
| Oil consumption..... barrels.                                                 | 1,810           | 1,881          | 2,101           |
| Power distributed to consumers..... KWH.                                      | 3,631,222       | 4,122,618      | 5,034,752       |
| Loss of power in plant auxiliaries, transmission and transformation..... KWH. | 620,978         | 689,462        | 937,758         |
| Per cent of loss of power to gross output.....                                | 14.60           | 14.32          | 15.70           |

Miscellaneous electrical repairs and installations of electrical equipment were made on 21 vessels during the month. There were 240 work orders issued for work

to be performed by the Electrical Division during the month, as compared with 375 for the month of January, 1922.

#### SHOP, FOUNDRY, AND DRY DOCK WORK.

The output of the Mechanical Division in patterns and castings for February, 1922, as compared with the preceding month, was as follows:

|            | February, 1922. |           |         | January, 1922. |           |         |
|------------|-----------------|-----------|---------|----------------|-----------|---------|
|            | Patterns.       | Castings. | Pounds. | Patterns.      | Castings. | Pounds. |
| Iron.....  | 7               | 140       | 4,482   | 5              | 57        | 9,943   |
| Steel..... | 2               | 140       | 20,045  | 100            | 100       | 13,715  |
| Brass..... | 3               | 254       | 3,092   | 120            | 120       | 2,862   |

During the month, miscellaneous repairs were made on 45 vessels at Cristobal and 35 at the Balboa shops. Of the above vessels, 8 were placed in dry dock at Cristobal and 9 at Balboa.

A most unusual and exacting job in the nature of repairs was performed by the Balboa shops on the crank shaft from the port auxiliary compressor engine of the motor ship *Pedro Christopherson*. As the result of an accident on board ship, the 4-throw crank shaft was twisted, leaving the shaft distorted to a total of approximately 63 degrees from a vertical line from No. 1 throw to the end of the shaft. The distortion existed in all of the throws from 16 to 18 degrees in each one. The shaft was about 13 feet 6 inches over all, the radius of the throws 8 inches, and the diameter of the crank and main bearings about 7 $\frac{3}{4}$  inches. The crank shaft was dismantled and sent to the shops, heated and straightened, and the throws and journals turned; the maximum amount of material lost in the re-turning did not exceed 3/64ths of an inch. When the rigidity of the shaft, the general twist over its entire length, and the small amount of material lost in remachining are taken into consideration, it is believed that an unusually difficult job was very successfully handled.

#### DREDGING DIVISION.

Cucaracha, Culebra, and Barge Repair slides have all been quiescent during the entire month. The total excavation for the month of February, 1922, including earth and rock, was 216,550 cubic yards, as follows:

| Cubic yards. | Classified as— |        | Character of work. | Stations.                                                                                  | Equipment                            |
|--------------|----------------|--------|--------------------|--------------------------------------------------------------------------------------------|--------------------------------------|
|              | Earth.         | Rock.  |                    |                                                                                            |                                      |
| 43,100       | 9,500          | 33,600 | Maintenance.....   | <i>Gaillard Cut, West Culebra.</i><br>1789-50 to 1776-50.....<br>1763-00 to 1757-00 W..... | <i>Gamboa.</i><br><i>Gamboa.</i>     |
| 15,300       | 4,100          | 11,200 | Maintenance.....   | <i>Gaillard Cut, East Culebra.</i><br>1776-00 to 1788-50 E.....                            | <i>Gamboa.</i>                       |
| 20,850       | 14,550         | 6,300  | Maintenance.....   | <i>Gaillard Cut, Barge Repair.</i><br>1757-00 to 1746 E. and W.....                        | <i>Gamboa.</i>                       |
| 27,400       | 13,000         | 14,400 | Maintenance.....   | <i>Pacific Entrance.</i><br>2159-00 to 2178-80 E. and W.....                               | <i>Cascadas.</i><br><i>Cascadas.</i> |
| 8,400        | 8,400          | 8,400  | Construction.....  | 2159-00 to 2178-80 E. and W.....                                                           | <i>No. 84.</i>                       |
| 85,600       | 85,600         | .....  | Maintenance.....   | 2316-00 to 2355-25 W.....                                                                  | <i>No. 84.</i>                       |
| 15,900       | 15,900         | .....  | Maintenance.....   | 2075-00 to 2080-00 W.....                                                                  | <i>No. 84.</i>                       |
| 216,550      | 142,650        | 73,900 |                    |                                                                                            |                                      |

The material excavated at the various stations was disposed of as follows:

|                                    | Cubic yards. |
|------------------------------------|--------------|
| Dumped north of Gamboa.....        | 79,250       |
| Dumped on flats west of Canal..... | 85,600       |
| Dumped on flats east of Canal..... | 15,900       |
| Dumped at sea.....                 | 35,800       |
| Total.....                         | 216,550      |

#### MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form:

|                                    | February,<br>1922. | January,<br>1922. | February,<br>1921. |
|------------------------------------|--------------------|-------------------|--------------------|
|                                    | Gallons.           | Gallons.          | Gallons.           |
| Pumping stations.....              | 609,793,750        | 663,058,500       | 794,342,250        |
| Filtration plants.....             | 358,774,000        | 392,676,000       | 484,624,000        |
| Water consumed by Panama City..... | 75,265,000         | 85,076,000        | 84,209,000         |
| Water consumed by Colon.....       | 53,526,000         | 52,321,000        | 57,771,750         |
| Sales of water to vessels.....     | 9,597,295          | 10,249,580        | 20,365,325         |

Construction work, as itemized below, was under progress during the month of February, 1922, with completion on January 31 and February 28 as shown:

|                                                                     | Per cent completed. |          |
|---------------------------------------------------------------------|---------------------|----------|
|                                                                     | Jan. 31.            | Feb. 28. |
| Fill, France Field.....                                             | 99.5                | 99.5     |
| Grading of Silver City, Mount Hope.....                             | 95                  | 98       |
| Construction of landing field at Naval Air Station, Coco Solo.....  | 50                  | 97       |
| Seawall and dry fill, Coco Solo.....                                | 12                  | 75       |
| Construction of new concrete seawall, new Santo Tomas Hospital..... | 98.5                | 98.5     |
| Extension of roads, new Santo Tomas Hospital.....                   | 60                  | 60       |
| Foundation of statue of Balboa.....                                 | 79                  | 79       |
| Extension of seawall, new Santo Tomas Hospital.....                 | 75                  | 97       |
| Installation of electric duct line, new Santo Tomas Hospital.....   | 65                  | 65       |

#### OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                             | February 28, 1922. |        |           | Total occupants.   |                   |                    |
|-----------------------------|--------------------|--------|-----------|--------------------|-------------------|--------------------|
|                             | Men.               | Women. | Children. | February,<br>1922. | January,<br>1922. | February,<br>1921. |
| Americans.....              | 2,413              | 1,890  | 2,226     | 6,529              | 6,358             | 8,511              |
| Europeans.....              | 97                 | 41     | 91        | 229                | 244               | 281                |
| West Indians.....           | 4,115              | 2,475  | 5,538     | 12,128             | 12,697            | 11,695             |
| Totals, February, 1922..... | 6,625              | 4,406  | 7,855     | 18,886             |                   |                    |
| Totals, January, 1922.....  | 7,098              | 4,448  | 7,753     |                    | 19,299            |                    |
| Totals, February, 1921..... | 8,593              | 4,565  | 7,329     |                    |                   | 20,487             |

#### WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of February 15, 1922, by departments, together with a comparison of the working force for the preceding month, and that of February, 1921:

|                                  | Employees as of<br>February 15, 1922. |         | Total employees.   |                   |                    |
|----------------------------------|---------------------------------------|---------|--------------------|-------------------|--------------------|
|                                  | Gold.                                 | Silver. | February,<br>1922. | January,<br>1922. | February,<br>1921. |
| Operation and Maintenance:       |                                       |         |                    |                   |                    |
| Office.....                      | 28                                    | 56      | 84                 | 71                | 77                 |
| Electrical.....                  | 143                                   | 159     | 302                | 294               | 462                |
| Municipal Engineering.....       | 76                                    | 545     | 621                | 613               | 949                |
| Lock Operation.....              | 185                                   | 673     | 858                | 853               | 1,052              |
| Dredging.....                    | 133                                   | 616     | 749                | 765               | 1,250              |
| Mechanical.....                  | 348                                   | 565     | 913                | 965               | 2,583              |
| Marine.....                      | 157                                   | 368     | 525                | 498               | 827                |
| Fortifications.....              | 43                                    | 258     | 301                | 290               | 361                |
| Totals.....                      | 1,113                                 | 3,240   | 4,353              | 4,349             | 7,561              |
| Supply Department:               |                                       |         |                    |                   |                    |
| Transportation.....              | 32                                    | 145     | 177                | 183               |                    |
| Quartermaster.....               | 131                                   | 795     | 926                | 953               | 2,264              |
| Subsistence.....                 | 16                                    | 208     | 224                | 238               | 470                |
| Commissary.....                  | 175                                   | 782     | 957                | 1,039             | 1,766              |
| Cattle Industry—Plantations..... | 10                                    | 294     | 304                | 360               | 440                |
| Hotel Washington.....            | 8                                     | 85      | 93                 | 85                | 109                |
| Totals.....                      | 372                                   | 2,309   | 2,681              | 2,858             | 5,049              |

\* Includes 532 employees of the former Building Division.



|                                      | Employees as of<br>February 15, 1922. |         | Total employees.   |                   |                   |
|--------------------------------------|---------------------------------------|---------|--------------------|-------------------|-------------------|
|                                      | Gold.                                 | Silver. | February,<br>1922. | January,<br>1922. | February<br>1921. |
| Accounting Department.....           | 177                                   | 7       | 184                | 187               | 243               |
| Health Department.....               | 218                                   | 736     | 954                | 949               | 1,138             |
| Executive Department.....            | 494                                   | 243     | 737                | 736               | 827               |
| Totals.....                          | 889                                   | 986     | 1,875              | 1,872             | 2,208             |
| Panama Railroad:                     |                                       |         |                    |                   |                   |
| Superintendent.....                  | 47                                    | 252     | 299                | 294               | 585               |
| Transportation.....                  | 70                                    | 107     | 177                | 182               | 260               |
| Receiving and Forwarding Agency..... | 61                                    | 791     | 852                | 920               | 1,088             |
| Coaling stations.....                | 88                                    | 470     | 558                | 539               | 1,360             |
| Totals.....                          | 266                                   | 1,620   | 1,886              | 1,935             | 3,293             |
| Grand totals, February, 1922.....    | 2,640                                 | 8,155   | 10,795             |                   |                   |
| Grand totals, January, 1922.....     | 2,691                                 | 8,323   |                    | 11,014            |                   |
| Grand totals, February, 1921.....    | 4,043                                 | 14,068  |                    |                   | 18,111            |

## SCHOOLS.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone, for the month of February, 1922:

|                                      | White.  | Colored. | Total. |
|--------------------------------------|---------|----------|--------|
| Gross enrollment.....                | 1,977   | 1,721    | 3,698  |
| Net enrollment.....                  | 1,849   | 1,674    | 3,523  |
| Average daily attendance.....        | 1,552.7 | 1,309.3  | 2,862  |
| Pupils neither absent nor tardy..... | 856     | 542      | 1,398  |
| Number of cases of tardiness.....    | 291     | 73       | 364    |
| Number of teachers.....              | 77      | 32       | 109    |

## RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, and cash sales from stock, are shown below in comparative form:

|                                                                         | February,<br>1922. | January,<br>1922. | February,<br>1921. |
|-------------------------------------------------------------------------|--------------------|-------------------|--------------------|
| Material received on United States requisitions, chargeable as follows: |                    |                   |                    |
| Operation and Maintenance.....                                          | \$113,754.54       | \$76,817.53       | \$906,113.41       |
| Construction and equipment.....                                         |                    |                   | 20,318.02          |
| Miscellaneous.....                                                      | 820.74             | 861.65            | 22,583.52          |
| Totals.....                                                             | 114,575.28         | 77,679.18         | 949,014.95         |
| Cash sales on the Isthmus:                                              |                    |                   |                    |
| Stock.....                                                              | 28,924.32          | 23,094.88         | 42,043.36          |
| Fuel oil (including sales to ships).....                                | 106.56             | 7,541.19          | 21,703.29          |
| Scrap.....                                                              | 685.83             | 173.77            | 5,076.15           |
| Obsolete and second hand material.....                                  | 1,809.72           | 5,265.23          | 1,074.34           |
| Totals.....                                                             | 31,526.43          | 36,075.07         | 69,897.14          |
| Sales to steamships from storehouses:                                   |                    |                   |                    |
| Miscellaneous stock items.....                                          | 9,078.06           | 23,094.88         | 26,473.69          |
| Fuel oil.....                                                           | 47.64              | 7,541.19          | 18,099.17          |
| Totals.....                                                             | 9,125.70           | 30,636.07         | 44,572.86          |

## FINANCIAL RECEIPTS AND EXPENDITURES.

|                                                                     | February,<br>1922. | January,<br>1922. | February,<br>1921. |
|---------------------------------------------------------------------|--------------------|-------------------|--------------------|
| Cash balance available for expenditure in Canal appropriations..... | \$11,996,276.91    | \$11,964,761.27   | \$12,449,215.86    |
| Payments made from appropriations:                                  |                    |                   |                    |
| By paymaster on the Isthmus.....                                    | 905,108.33         | 945,193.78        | 1,522,617.04       |
| By disbursing clerk, Washington.....                                | 157,918.57         | 71,160.53         | 980,550.80         |
| To Panama Railroad (for commissary books).....                      | 179,237.13         | 215,909.98        | 335,118.04         |

## FINANCIAL RECEIPTS AND EXPENDITURES—continued.

|                                                                                          | February,<br>1922.  | January,<br>1922.   | February,<br>1921.  |
|------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|
| <b>Collections on the Isthmus:</b>                                                       |                     |                     |                     |
| Repaid to appropriations.....                                                            | \$760,759.67        | \$594,956.23        | \$917,391.41        |
| Commissary and other trust funds.....                                                    | 182,034.41          | 218,612.32          | 337,891.81          |
| Tolls.....                                                                               | 866,285.08          | 847,783.65          | 917,421.49          |
| Sales of water.....                                                                      | 1,680.20            | 29,337.40           | 1,879.70            |
| Postal receipts.....                                                                     | 8,429.78            | 10,782.65           | 11,507.27           |
| Licenses, taxes, court fees, etc.....                                                    | 3,836.97            | 6,348.76            | 6,005.11            |
| Sales of construction material and equipment.....                                        |                     |                     | 1,278.30            |
| <b>Total collections on Isthmus.....</b>                                                 | <b>1,823,551.11</b> | <b>1,707,821.01</b> | <b>2,193,375.09</b> |
| <b>Collections by disbursing clerk, Washington, D. C.....</b>                            | <b>38,031.40</b>    | <b>6,276.88</b>     | <b>7,140.10</b>     |
| <b>Deposits made with Assistant Treasurer, United States.....</b>                        | <b>51,800.00</b>    | <b>48,800.00</b>    | <b>56,700.00</b>    |
| <b>Canal Zone and miscellaneous funds:</b>                                               |                     |                     |                     |
| <b>Receipts—</b>                                                                         |                     |                     |                     |
| Money order funds.....                                                                   | 106,328.64          | 110,781.34          | 236,639.52          |
| Clubhouse funds.....                                                                     | 29,221.05           | 35,270.56           | 56,406.88           |
| Trust funds.....                                                                         | 600.00              | 1,024.26            | 1,175.95            |
| Interest.....                                                                            | 1,779.15            | 2,900.22            | 1,386.92            |
| <b>Total receipts.....</b>                                                               | <b>137,928.84</b>   | <b>149,976.38</b>   | <b>295,609.27</b>   |
| <b>Disbursements:</b>                                                                    |                     |                     |                     |
| Money order funds.....                                                                   | 80,100.00           | 157,578.90          | 156,476.00          |
| Clubhouse funds.....                                                                     | 25,466.49           | 31,690.03           | 45,273.58           |
| Trust funds.....                                                                         | 183.96              | 738.78              | 2,096.06            |
| Interest.....                                                                            | 323.06              | 516.77              | 448.39              |
| <b>Total disbursements.....</b>                                                          | <b>106,073.51</b>   | <b>190,524.48</b>   | <b>204,294.03</b>   |
| <b>Pay roll on the Isthmus:</b>                                                          |                     |                     |                     |
| Maintenance and operation.....                                                           | 614,892.77          | 632,606.00          | 1,132,979.32        |
| Sanitation.....                                                                          | 69,983.00           | 70,722.13           | 85,588.94           |
| Civil Government.....                                                                    | 66,065.08           | 67,127.91           | 66,218.44           |
| <b>Totals.....</b>                                                                       | <b>750,940.85</b>   | <b>770,456.04</b>   | <b>1,284,786.70</b> |
| <b>Requisitions for purchase in the United States.....</b>                               | <b>118,223.03</b>   | <b>221,693.59</b>   | <b>133,644.93</b>   |
| <b>Sales of commissary supplies:</b>                                                     |                     |                     |                     |
| To The Panama Canal.....                                                                 | 73,744.15           | 79,773.30           | 140,793.07          |
| To steamships, other than those of the United States Government and Panama Railroad..... | 34,697.33           | 21,864.69           | 65,759.06           |
| To the Panama Railroad, including steamships and Hotel Washington.....                   | 17,597.43           | 16,542.51           | 26,164.79           |
| To the United States Government including Army and Navy.....                             | 64,714.25           | 87,052.09           | 246,185.53          |
| To individuals and companies through charge accounts.....                                | 24,869.21           | 24,555.36           | 23,193.76           |
| To individuals purchasing coupons.....                                                   | 289,640.52          | 291,689.06          | 500,152.60          |
| <b>Totals.....</b>                                                                       | <b>505,262.89</b>   | <b>521,477.01</b>   | <b>1,002,248.81</b> |

Respectfully,

JAY J. MORROW,

Governor.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending March 25, 1922.**

| Name of vessel.    | Line or charterer.                | Arrived.      | Departed.     | Cargo—     |        |
|--------------------|-----------------------------------|---------------|---------------|------------|--------|
|                    |                                   |               |               | Discharged | Laded. |
|                    |                                   |               |               | Tons.      | Tons.  |
| Laura C. Hall..... | Pacific Metals Transportation Co. | March 21..... | March 22..... | .....      | 45     |
| Ecuador.....       | Pacific Mail Steamship Co.        | March 21..... | March 22..... | 3          | 1      |
| Jamaica.....       | Pacific Steam Navigation Co.      | March 22..... | March 22..... | 1          | 14     |
| Jeptha.....        | United States Shipping Board      | March 22..... | March 24..... | 48         | .....  |
| Ceres.....         | Royal Netherlands W. I. Mail      | March 24..... | March 24..... | 112        | .....  |
| Almagro.....       | McAndrews & Co., Ltd.             | March 25..... | March 25..... | 1          | .....  |

**Supplement No. 11 to Tariff No. 5.—Coal.—Superseding Supplement No. 10 to Tariff No. 5.**

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., March 22, 1922.

**ITEM 21.—COAL.**

(Effective February 1, 1922.)

|                                                                                                                                                                                                                                                                                                                                     | Cristobal-Colon. | Balboa. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------|
| 1. For steamships, including warships of all nations, delivered from coaling plants, per ton of 2,240 pounds, except as provided in paragraph 2.....                                                                                                                                                                                | \$12.00          | \$15.00 |
| 2. For vessels transiting the Canal that are directed by The Panama Canal to take coal at Balboa on account of the condition of the plants, the quantity available, or for the purpose of expediting transit.....                                                                                                                   |                  | 12.00   |
| 3. For steamships, including warships of all nations, when delivered from lighters in quantities of 50 tons or more, per ton of 2,240 pounds.....                                                                                                                                                                                   | 13.00            | 16.00   |
| 4. For steamships, including warships of all nations, when delivered from lighters in quantities of less than 50 tons, with minimum charge for 20 tons and with maximum charge not to exceed that for 50 tons at prices specified in paragraph 3, per ton of 2,240 pounds.....                                                      | 15.00            | 18.00   |
| 5. When request is made by commander of vessel, chief engineer, or agent, for trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, an additional charge of 90 cents per ton will be made for extra handling.                                                                                  |                  |         |
| 6. For lump coal for galley use, delivered in sacks, additional charge per ton, \$12. Should the vessel furnish satisfactory sacks, the charge will be only \$5 per ton additional. If delivery is made other than at the reloading side of the coaling plant, the extra cost of such special delivery will be charged in addition. |                  |         |
| 7. For coal for cargo, delivered only by special authority of the Governor, per ton of 2,240 pounds, prices quoted on application.                                                                                                                                                                                                  |                  |         |
| 8. Special prices for coal in large quantities as specified below, taken from alongside coaling plants:                                                                                                                                                                                                                             |                  |         |
| (a) To vessels taking 1,200 tons or over;                                                                                                                                                                                                                                                                                           |                  |         |
| (b) To vessels taking between 825 and 1,200 tons and bunkering full;                                                                                                                                                                                                                                                                |                  |         |
| (c) To vessels taking 825 or more tons and more than quantity required to bunker full;                                                                                                                                                                                                                                              |                  |         |
| Price to above three classes, per ton of 2,240 pounds.....                                                                                                                                                                                                                                                                          | 10.00            | 13.00   |
| (d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at the prices specified in paragraph (c).                                                                                                                                                                                   |                  |         |
| (e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at the prices specified in paragraph (c).                                                                                  |                  |         |
| (f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plants at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds.....                                                                   | 1.00             | 1.00    |
| (g) If less than 50 tons are delivered in lighters paragraph 4 will apply.                                                                                                                                                                                                                                                          |                  |         |
| (h) The Cristobal rates will apply to coal for vessels transiting the Canal taken at Balboa by direction of The Panama Canal.                                                                                                                                                                                                       |                  |         |

JAY J. MORROW,  
Governor, The Panama Canal.  
President, Panama Railroad Company.

Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, February, 1922.\*

| From—                              | NORTH AMERICA.             |                            |                            |                       |              |                 |                       |                       |              |        | EUROPE.        |          |          |         |          |          |        |         |        |                      | Grand totals. | Per cent of total cargo. |                |                              |                 |  |         |  |
|------------------------------------|----------------------------|----------------------------|----------------------------|-----------------------|--------------|-----------------|-----------------------|-----------------------|--------------|--------|----------------|----------|----------|---------|----------|----------|--------|---------|--------|----------------------|---------------|--------------------------|----------------|------------------------------|-----------------|--|---------|--|
|                                    | UNITED STATES.             |                            |                            |                       |              | CANADA.         |                       |                       |              |        | British Isles. | Belgium. | Denmark. | France. | Germany. | Holland. | Italy. | Sweden. | Spain. | Europe. <sup>2</sup> |               |                          | Total, Europe. | East coast of South America. |                 |  |         |  |
|                                    | North At-<br>lantic ports. |                            | South At-<br>lantic ports. |                       | Gulf ports.  |                 | Total, United States. |                       | West Indies. |        |                |          |          |         |          |          |        |         |        |                      |               |                          |                |                              | Crisobal, C. Z. |  | Canada. |  |
|                                    | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports.                | Total, United States. | West Indies. | Crisobal, C. Z. | Canada.               | Total, North America. |              |        |                |          |          |         |          |          |        |         |        |                      |               |                          |                |                              |                 |  |         |  |
| SOUTH AMERICA:                     |                            |                            |                            |                       |              |                 |                       |                       |              |        |                |          |          |         |          |          |        |         |        |                      |               |                          |                |                              |                 |  |         |  |
| Chile.....                         | 34,856                     | 2,250                      | 37,106                     | 485                   |              |                 |                       | 37,591                | 20,659       | 1,439  |                |          | 9,814    | 10,942  | 4,119    | 410      |        | 369     |        |                      | 47,752        | 85,343                   | 21.            |                              |                 |  |         |  |
| Colombia.....                      | 195                        |                            | 195                        | 497                   |              |                 |                       | 692                   |              |        |                |          |          |         |          |          |        | 19      |        |                      | 65            | 767                      | 0.2            |                              |                 |  |         |  |
| Ecuador.....                       | 3,097                      |                            | 3,097                      | 562                   |              |                 |                       | 3,659                 |              |        |                |          |          | 101     |          | 294      |        | 182     |        |                      | 587           | 4,216                    | 1.0            |                              |                 |  |         |  |
| Peru.....                          | 1,791                      |                            | 1,791                      | 3,459                 |              |                 |                       | 5,250                 | 15,053       |        |                |          |          | 6       |          | 26       |        | 10      |        |                      | 15,095        | 20,345                   | 5.1            |                              |                 |  |         |  |
| Total, South America.....          | 39,939                     | 2,250                      | 42,189                     | 5,003                 |              |                 |                       | 47,192                | 35,712       | 1,439  |                |          | 9,814    | 11,049  | 4,119    | 730      |        | 182     | 399    |                      | 63,444        | 110,701                  | 28.0           |                              |                 |  |         |  |
| NORTH AMERICA:                     |                            |                            |                            |                       |              |                 |                       |                       |              |        |                |          |          |         |          |          |        |         |        |                      |               |                          |                |                              |                 |  |         |  |
| West coast of United States.....   | 87,498                     | 955                        | 645                        | 89,098                | 2,100        | 91              |                       | 91,199                | 69,461       |        |                |          | 318      | 2,599   |          | 4,124    |        | 526     |        | 995                  | 78,023        | 169,602                  | 43.0           |                              |                 |  |         |  |
| West coast of Canada.....          |                            |                            |                            |                       |              |                 |                       |                       | 30,098       | 219    |                |          | 500      | 280     |          | 218      |        |         |        |                      | 31,315        | 40,403                   | 10.0           |                              |                 |  |         |  |
| West coast of Central America..... | 130                        |                            |                            | 130                   | 93           | 4,515           |                       | 4,738                 | 47           |        |                |          |          | 954     |          | 783      |        |         |        | 1,317                | 3,101         | 7,839                    | 1.9            |                              |                 |  |         |  |
| Total, North America.....          | 96,623                     | 955                        | 645                        | 98,223                | 2,193        | 4,606           |                       | 105,022               | 99,576       | 219    |                |          | 818      | 3,833   |          | 4,372    |        | 1,309   |        | 2,312                | 112,439       | 380,217,841              | 55.0           |                              |                 |  |         |  |
| ASIA:                              |                            |                            |                            |                       |              |                 |                       |                       |              |        |                |          |          |         |          |          |        |         |        |                      |               |                          |                |                              |                 |  |         |  |
| China.....                         | 110                        |                            |                            | 110                   |              |                 |                       | 110                   |              |        |                |          |          |         |          |          |        |         |        |                      |               | 110                      |                |                              |                 |  |         |  |
| Japan.....                         | 30                         |                            |                            | 30                    |              |                 |                       | 30                    |              |        |                |          |          |         |          |          |        |         |        |                      |               | 30                       |                |                              |                 |  |         |  |
| Philippines.....                   | 11,072                     |                            |                            | 11,072                |              |                 |                       | 11,072                |              |        |                |          |          |         |          |          |        |         |        |                      |               | 11,072                   | 3.0            |                              |                 |  |         |  |
| Far East.....                      | 8,118                      |                            |                            | 8,118                 |              |                 |                       | 8,118                 |              |        |                |          |          |         |          |          |        |         |        |                      |               | 8,118                    | 2.0            |                              |                 |  |         |  |
| Total, Asia.....                   | 19,330                     |                            |                            | 19,330                |              |                 |                       | 19,330                |              |        |                |          |          |         |          |          |        |         |        |                      |               | 19,330                   | 5.0            |                              |                 |  |         |  |
| AUSTRALASIA:                       |                            |                            |                            |                       |              |                 |                       |                       |              |        |                |          |          |         |          |          |        |         |        |                      |               |                          |                |                              |                 |  |         |  |
| Australia.....                     | 335                        |                            |                            | 335                   |              |                 |                       | 335                   | 600          |        |                |          |          |         |          |          |        |         |        | 699                  | 935           | 0.2                      |                |                              |                 |  |         |  |
| New Zealand.....                   | 8,865                      |                            |                            | 8,865                 |              |                 |                       | 8,865                 | 21,117       |        |                |          |          |         |          |          |        |         |        | 21,117               | 29,982        | 7.6                      |                |                              |                 |  |         |  |
| Australasia <sup>2</sup> .....     | 2,598                      |                            |                            | 2,598                 |              |                 |                       | 2,600                 |              |        |                |          | 6,364    |         |          |          |        |         |        | 6,364                | 8,964         | 2.2                      |                |                              |                 |  |         |  |
| Total, Australasia.....            | 11,798                     |                            |                            | 11,798                |              |                 |                       | 2                     | 11,800       | 21,717 |                |          | 6,364    |         |          |          |        |         |        | 28,081               | 39,881        | 10.0                     |                |                              |                 |  |         |  |
| Hawaii.....                        | 996                        |                            |                            | 996                   |              |                 |                       | 996                   |              |        |                |          | 6,500    |         |          |          |        |         |        | 6,500                | 7,496         | 1.9                      |                |                              |                 |  |         |  |
| Grand totals.....                  | 168,686                    | 955                        | 2,895                      | 172,536               | 2,193        | 9,609           |                       | 218,134               | 157,005      | 1,658  | 12,854         | 10,632   | 14,882   | 4,119   | 5,102    | 1,401    | 399    | 2,312   |        | 210,464              | 445,895,249   | 109.0                    |                |                              |                 |  |         |  |
| Per cent of total cargo:           |                            |                            |                            |                       |              |                 |                       |                       |              |        |                |          |          |         |          |          |        |         |        |                      |               |                          |                |                              |                 |  |         |  |
| February, 1922.....                | 42.7                       | 0.2                        | 0.7                        | 43.6                  | 0.5          | 2.4             |                       | 46.6                  | 39.7         | 0.4    | 3.3            | 2.7      | 3.8      | 1.0     | 1.3      | 0.4      | 0.1    | 0.6     |        | 53.3                 | 1.0           | 100.0                    |                |                              |                 |  |         |  |
| January, 1922.....                 | 43.7                       | 2.2                        | 4.2                        | 49.8                  | 0.7          | 1.7             |                       | 52.2                  | 30.6         | 2.6    | 2.2            | 2.5      | 5.3      | 0.2     | 1.4      |          |        | 0.6     |        | 2.8                  | 47.6          | 0.2                      |                |                              |                 |  |         |  |
| February, 1921.....                | 24.7                       | 6.1                        | 2.1                        | 32.9                  | 1.0          | 0.9             |                       | 35.8                  | 27.7         | 2.1    | 0.7            | 1.2      | 5.2      | 1.4     |          |          | 2.0    |         |        | 49.6                 |               |                          |                |                              |                 |  |         |  |

\* Figures represent tons of 2,240 pounds. General cargo not routed so as to allow segregation between definite ports.



## Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, February, 1922.\*

| From—                                   | SOUTH AMERICA. |           |          |        |                              | NORTH AMERICA.       |                              |                       |                                |               | ASIA.                |        |         |              |                        | AUSTRALASIA. |            |              | Grand totals. | Per cent of total cargo. |                     |      |
|-----------------------------------------|----------------|-----------|----------|--------|------------------------------|----------------------|------------------------------|-----------------------|--------------------------------|---------------|----------------------|--------|---------|--------------|------------------------|--------------|------------|--------------|---------------|--------------------------|---------------------|------|
|                                         | Chile.         | Colombia. | Ecuador. | Peru.  | West coast of South America. | Total South America. | West coast of United States. | West coast of Canada. | West coast of Central America. | Balboa, C. Z. | Total North America. | China. | Japan.  | Philippines. | Far East. <sup>2</sup> | Total, Asia. | Australia. | New Zealand. |               |                          | Total, Australasia. |      |
| UNITED STATES:                          |                |           |          |        |                              |                      |                              |                       |                                |               |                      |        |         |              |                        |              |            |              |               |                          |                     |      |
| North Atlantic ports.....               | 10,225         | 410       | 3,696    | 5,431  | 19,762                       | 19,762               | 85,066                       | 3,433                 | .....                          | .....         | 88,499               | 12,168 | 71,469  | 3,505        | 3,753                  | 90,895       | 11,900     | 11,465       | 23,365        | 222,521                  | 50.3                |      |
| South Atlantic ports.....               | .....          | .....     | .....    | .....  | .....                        | .....                | 500                          | .....                 | .....                          | .....         | 500                  | 1,078  | 2,574   | .....        | .....                  | 3,652        | 3,652      | .....        | 4,152         | 0.9                      |                     |      |
| Gulf ports.....                         | 1,705          | .....     | 26       | 38     | 1,769                        | 1,769                | 26,693                       | 2,000                 | .....                          | .....         | 28,693               | 1,453  | 35,643  | 1,863        | .....                  | 38,959       | .....      | 6,635        | 6,635         | 76,056                   | 17.2                |      |
| Total, United States.....               | 11,930         | 410       | 3,722    | 5,469  | 21,531                       | 21,531               | 112,259                      | 5,433                 | .....                          | .....         | 117,692              | 14,699 | 109,686 | 5,368        | 3,753                  | 133,566      | 11,900     | 18,100       | 30,000        | 302,725                  | 68.4                |      |
| East coast of Mexico.....               | 27,037         | .....     | .....    | .....  | 27,037                       | 27,037               | .....                        | .....                 | 6,700                          | 6,700         | 6,700                | .....  | 8,000   | .....        | .....                  | 8,000        | .....      | .....        | .....         | 41,737                   | 9.4                 |      |
| Atlantic terminus, Cristobal, C. Z..... | 1,470          | 432       | 562      | 801    | 3,265                        | 3,265                | 140                          | .....                 | 2,798                          | .....         | 2,798                | 5,250  | 7,400   | .....        | .....                  | 12,650       | .....      | .....        | .....         | 6,063                    | 1.3                 |      |
| West Indies.....                        | .....          | .....     | .....    | .....  | .....                        | .....                | .....                        | .....                 | .....                          | .....         | .....                | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 12,790                   | 2.9                 |      |
| East coast of Canada.....               | .....          | .....     | .....    | .....  | .....                        | .....                | .....                        | .....                 | .....                          | .....         | .....                | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 12,790                   | 2.9                 |      |
| Total, North America.....               | 40,437         | 842       | 4,284    | 6,270  | 51,833                       | 51,833               | 112,399                      | 5,433                 | 2,798                          | 6,700         | 127,330              | 19,949 | 125,086 | 5,368        | 3,753                  | 154,156      | 14,312     | 19,103       | 33,415        | 366,734                  | 82.8                |      |
| EUROPE:                                 |                |           |          |        |                              |                      |                              |                       |                                |               |                      |        |         |              |                        |              |            |              |               |                          |                     |      |
| Belgium.....                            | .....          | .....     | .....    | .....  | .....                        | .....                | 750                          | .....                 | .....                          | .....         | 750                  | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 752                      | 0.1                 |      |
| British Isles.....                      | 7,443          | .....     | 2,629    | 8,119  | 2,736                        | 15,927               | 6,567                        | 1,943                 | .....                          | .....         | 8,510                | .....  | .....   | .....        | .....                  | .....        | 1,603      | 28,691       | 30,294        | 54,731                   | 12.3                |      |
| France.....                             | 438            | .....     | 450      | 202    | 450                          | 202                  | .....                        | .....                 | .....                          | .....         | .....                | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 1,090                    | 0.2                 |      |
| Germany.....                            | 1,069          | .....     | 2,170    | 1,966  | .....                        | .....                | .....                        | .....                 | .....                          | .....         | .....                | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 5,205                    | 1.1                 |      |
| Holland.....                            | 275            | .....     | 1,600    | 85     | 1,960                        | 1,960                | .....                        | .....                 | .....                          | .....         | .....                | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 1,960                    | 0.4                 |      |
| Sweden.....                             | .....          | .....     | 1,001    | 132    | 1,133                        | 1,133                | 222                          | .....                 | .....                          | .....         | 222                  | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 1,355                    | 0.3                 |      |
| Europe <sup>2</sup> .....               | .....          | .....     | .....    | .....  | .....                        | .....                | 3,984                        | .....                 | .....                          | .....         | 3,984                | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 3,984                    | 0.9                 |      |
| Total, Europe.....                      | 9,225          | .....     | 7,850    | 5,504  | 2,738                        | 25,317               | 11,523                       | 1,943                 | .....                          | .....         | 13,466               | .....  | .....   | .....        | .....                  | .....        | .....      | 1,603        | 28,691        | 30,294                   | 69,077              | 15.6 |
| East coast of South America.....        | .....          | 808       | .....    | .....  | .....                        | 808                  | 6,206                        | .....                 | .....                          | .....         | 6,206                | .....  | .....   | .....        | .....                  | .....        | .....      | .....        | .....         | 7,014                    | 1.6                 |      |
| Grand totals.....                       | 40,662         | 1,650     | 12,134   | 11,774 | 2,738                        | 77,958               | 130,128                      | 7,376                 | 2,798                          | 6,700         | 147,002              | 19,949 | 125,086 | 5,368        | 3,753                  | 154,156      | 15,915     | 47,794       | 63,709        | 442,825                  | 100.0               |      |
| Per cent of total cargo:                |                |           |          |        |                              |                      |                              |                       |                                |               |                      |        |         |              |                        |              |            |              |               |                          |                     |      |
| February, 1922.....                     | 11.2           | 0.3       | 2.7      | 2.6    | 0.6                          | 17.6                 | 29.4                         | 1.6                   | 0.6                            | 1.5           | 33.2                 | 4.5    | 28.2    | 1.2          | 0.8                    | 34.8         | 3.6        | 10.8         | 14.4          | 100.00                   | .....               |      |
| January, 1922.....                      | 12.0           | 0.2       | 0.7      | 2.1    | .....                        | 15.0                 | 27.6                         | 5.7                   | 1.0                            | 2.1           | 36.6                 | 4.8    | 24.2    | 0.1          | 1.5                    | 30.6         | 3.3        | 11.5         | 15.0          | .....                    | .....               |      |
| February, 1921.....                     | 27.7           | 0.1       | 0.2      | 1.3    | 8.0                          | 37.3                 | 22.4                         | 2.1                   | 1.4                            | 1.9           | 29.7                 | 7.5    | 3.2     | 0.1          | 7.2                    | 18.0         | 7.2        | 6.1          | 15.0          | .....                    | .....               |      |

\* General cargo not routed so as to allow segregation between definite ports.

\* Figures represent tons of 2,240 pounds.

**MOVEMENTS OF OCEAN VESSELS.**  
*Week ending at midnight, March 25, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |                     | Nationality.        | Line.                             | Length. | Beam. | Salt water draft. | From—          | To—             | Cargo.           |        | Panama Canal tonnage. |       |
|----------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|---------------------|---------------------|-----------------------------------|---------|-------|-------------------|----------------|-----------------|------------------|--------|-----------------------|-------|
|                      | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour.               |                     |                                   |         |       |                   |                |                 | Nature.          | Tons.  | Gross.                | Net.  |
| Carolyn.             | 18               | 19.43 | 19             | 6.17  | 19                 | 17.00 | 19               | 18.20               | American            | A. H. Bull Steamship Co.          | 313.0   | 46.0  | 22.0              | New Orleans.   | Tacoma.         | Subbur, general. | 4,000  | 3,462                 | 2,384 |
| Santa Rosa.          | 19               | 4.47  | 19             | 7.45  | 19                 | 17.11 | 19               | 18.23               | American            | W. R. Grace & Co.                 | 404.6   | 53.0  | 14.6              | New York.      | Mojilones.      | Ballast.         | 1,918  | 7,744                 | 4,804 |
| Dakotan.             | 19               | 5.26  | 19             | 8.20  | 19                 | 18.06 | 19               | 19.10               | American            | American-Hawaiian Line.           | 407.4   | 53.7  | 21.0              | New York.      | Los Angeles.    | General.         | 1,918  | 7,156                 | 5,058 |
| Edward Sewall.       | 18               | 17.20 | 19             | 8.57  | 19                 | 19.33 | 19               | 21.30               | American            | Alaska Packers Association.       | 332.0   | 45.3  | 20.0              | New Orleans.   | San Francisco.  | General.         | 4,200  | 3,274                 | 2,996 |
| Rangon Maru.         | 19               | 8.00  | 19             | 9.15  | 19                 | 19.26 | 19               | 20.30               | Japanese.           | Nippon Yusen Kaisha.              | 400.0   | 51.0  | 24.7              | New York.      | Kobe.           | General, steel.  | 5,816  | 5,559                 | 4,107 |
| Essequibo.           | 19               | 6.11  | 20             | 6.24  | 20                 | 12.46 | 19               | 14.37               | British             | Pacific Steam Navigation Co.      | 450.0   | 57.0  | 24.0              | New York.      | Valparaiso.     | General.         | 2,006  | 9,099                 | 6,117 |
| Santa Eulalia.       | 20               | 6.20  | 20             | 11.15 | 20                 | 19.05 | 20               | 20.12               | American            | American & Cuban S. Co.           | 251.0   | 43.6  | 22.11             | New York.      | Los Angeles.    | General.         | 2,806  | 2,823                 | 1,730 |
| Syde.                | 20               | 23.52 | 21             | 6.50  | 21                 | 15.37 | 22               | 8.07                | Swedish             | Swedish Transatlantic Co.         | 385.0   | 53.7  | 21.0              | Cardiff.       | San Francisco.  | Coal.            | 5,587  | 5,420                 | 4,035 |
| Laura C. Hall.       | 5                | 15.15 | 21             | 6.24  | 21                 | 15.31 | 22               | 10.43               | British             | Pacific Metals Transportation Co. | 81.0    | 26.0  | 9.0               | Cristobal.     | Buenaventura.   | General.         | 26     | 132                   | 72    |
| Sotia.               | 21               | 6.30  | 21             | 18.02 | 23                 | 9.21  | American         | United States Navy. | United States Navy. | 322.0                             | 43.11   | 21.0  | Cristobal.        | Balboa.        | Coal, supplies. | 2,709            | 1,155  | 5,926                 |       |
| Caesar.              | 19               | 19.40 | 21             | 7.30  | 21                 | 16.52 | 21               | 18.10               | American            | United States Navy.               | 380.0   | 48.0  | 24.0              | Baltimore.     | Mare Island.    | General.         | 1,155  | 5,926                 | 4,178 |
| Ecuador.             | 20               | 6.00  | 21             | 8.05  | 21                 | 16.41 | 21               | 17.25               | American            | Pacific Mail Steamship Co.        | 229.2   | 36.0  | 14.6              | Cardiff.       | San Francisco.  | General.         | 20     | 1,362                 | 891   |
| Baychimo.            | 21               | 6.22  | 21             | 9.19  | 21                 | 18.07 | 21               | 21.38               | British             | Hudson Bay Co.                    | 323.5   | 39.0  | 16.7              | New York.      | Seattle.        | General.         | 469    | 3,013                 | 1,574 |
| Gen. H. F. Hodges.   | 18               | 12.42 | 21             | 10.50 | 21                 | 18.15 | 21               | 19.50               | American            | Panama Railroad Steamship Line    | 323.5   | 39.0  | 16.7              | New York.      | Guayaquil.      | General.         | 469    | 3,013                 | 1,574 |
| Salvador.            | 18               | 20.00 | 22             | 6.20  | 22                 | 13.21 | 22               | 14.25               | British             | Pacific Steam Navigation Co.      | 215.0   | 33.0  | 12.10             | Cristobal.     | Acajutla.       | General.         | 243    | 1,213                 | 692   |
| Jamaica.             | 19               | 5.50  | 22             | 6.05  | 22                 | 13.23 | 22               | 16.35               | British             | Pacific Steam Navigation Co.      | 220.0   | 34.0  | 12.6              | Pto. Colombia. | Tumaco.         | General, salt.   | 279    | 1,187                 | 622   |
| Uralsan Maru.        | 22               | 6.25  | 22             | 7.07  | 22                 | 15.45 | 22               | 20.42               | Japanese.           | Yamaichi Kisen Kaisha.            | 400.0   | 53.0  | 25.0              | New Orleans.   | Yokohama.       | General.         | 7,128  | 5,930                 | 4,277 |
| Alway.               | 22               | 6.47  | 22             | 8.43  | 22                 | 17.25 | 24               | 8.57                | American            | Barber Line (S. B.).              | 402.6   | 53.0  | 25.0              | New York.      | Yokohama.       | General.         | 8,026  | 6,576                 | 4,886 |
| Gen. Win. Graham.    | 22               | 9.00  | 22             | 15.34 | 22                 | 17.37 | 22               | 20.17               | American            | United States Army.               | 360.8   | 41.2  | 21.0              | Cristobal.     | Balboa.         | General.         | 810    | 3,296                 | 2,156 |
| Imperial.            | 19               | 15.47 | 22             | 10.15 | 22                 | 18.37 | 22               | 20.17               | Chilean             | South American Steamship Co.      | 360.8   | 41.2  | 21.0              | Cristobal.     | Valparaiso.     | Ballast.         | 3,296  | 2,156                 | 1,574 |
| Santa Barbara.       | 22               | 11.15 | 22             | 11.30 | 22                 | 19.18 | 22               | 20.17               | American            | W. R. Grace & Co.                 | 402.4   | 54.0  | 15.6              | New York.      | Antofagasta.    | General.         | 6,789  | 4,746                 | 3,416 |
| Arizonan.            | 21               | 9.05  | 22             | 11.40 | 22                 | 22.10 | 22               | 20.17               | American            | American-Hawaiian Line.           | 484.0   | 57.0  | 30.9              | High seas.     | Balboa.         | General.         | 12,000 | 9,158                 | 6,970 |
| Hoboken.             | 21               | 16.45 | 22             | 12.15 | 22                 | 20.19 | 23               | 3.30                | American            | Eric Basin Towing & Hoisting Co.  | 380.4   | 53.1  | 22.2              | New Orleans.   | Seattle.        | General.         | 5,500  | 5,659                 | 4,138 |
| Kandahar.            | 22               | 9.00  | 23             | 6.17  | 23                 | 13.27 | 23               | 14.35               | British             | Bucknell Lines.                   | 434.0   | 55.0  | 27.9              | New York.      | Yokohama.       | General.         | 8,690  | 7,677                 | 5,912 |
| Grand Guard.         | 23               | 6.12  | 23             | 7.05  | 23                 | 15.47 | 23               | 17.15               | Norwegian.          | Henrik Ostervold.                 | 420.0   | 54.0  | 27.8              | New York.      | Yokohama.       | General.         | 9,350  | 6,983                 | 5,051 |
| Edgar F. Luckenbach. | 23               | 8.40  | 23             | 9.15  | 23                 | 16.59 | 23               | 18.15               | American            | Luckenbach Line.                  | 425.0   | 57.0  | 25.0              | New York.      | Los Angeles.    | General.         | 5,000  | 5,568                 | 4,096 |
| Havre Maru.          | 24               | 6.20  | 24             | 6.50  | 24                 | 13.44 | 25               | 9.17                | Japanese.           | Kokusai Kisen Kaisha.             | 400.0   | 53.0  | 25.6              | New York.      | Kobe.           | General.         | 6,928  | 5,886                 | 4,284 |
| Ceres.               | 23               | 13.53 | 24             | 7.15  | 24                 | 16.10 | 25               | 15.35               | Dutch.              | Royal Netherlands W. I. Mail.     | 348.0   | 48.2  | 13.6              | Amsterdam.     | Corral.         | General.         | 1,044  | 4,243                 | 3,123 |
| City of Ptolemy.     | 24               | 10.20 | 24             | 10.20 | 24                 | 17.38 | 24               | 18.55               | British.            | Ellerman S. S. Lines.             | 465.0   | 58.0  | 26.0              | New York.      | Brisbane.       | General.         | 6,360  | 9,660                 | 7,415 |
| Biyo Maru.           | 23               | 20.52 | 25             | 6.20  | 25                 | 14.21 | 25               | 15.35               | Japanese.           | Toyo Kisen Kaisha.                | 400.0   | 53.0  | 25.8              | New York.      | Yokohama.       | General.         | 7,343  | 5,999                 | 4,414 |
| Titoi.               | 21               | 16.51 | 25             | 11.10 | 25                 | 17.43 | 25               | 18.44               | British.            | Anchor Foundry S. S. Co.          | 170.6   | 30.0  | 10.9              | Glasgow.       | Nelson.         | Ballast.         | 660    | 253                   | 160   |
| Mahia.               | 25               | 11.40 | 25             | 12.00 | 25                 | 18.43 | 25               | 22.15               | British.            | Shaw, Saville & Albion Co.        | 477.0   | 63.0  | 27.0              | London.        | Auckland.       | Coal.            | 6,504  | 11,026                | 7,912 |

\* Bark.

\* Tug.

\* Collier.

\* Mine planter.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| THROUGH THE CANAL—PACIFIC TO ATLANTIC. |       |    |       |    |       |    |       |               |                              |       |      |      |                    |                      |        |       |       |
|----------------------------------------|-------|----|-------|----|-------|----|-------|---------------|------------------------------|-------|------|------|--------------------|----------------------|--------|-------|-------|
|                                        |       |    |       |    |       |    |       |               |                              |       |      |      |                    |                      |        |       |       |
| 18                                     | 14 00 | 19 | 6 30  | 19 | 14 50 | 19 | 20 07 | British.....  | New Zealand Shipping Co.     | 400 0 | 58 2 | 22 6 | Wellington.....    | Amsterdam.....       | 5 361  | 9 057 | 6 438 |
| 18                                     | 19 00 | 19 | 7 48  | 19 | 15 04 | 19 | 17 45 | British.....  | Hall Line, Ltd.              | 422 8 | 53 0 | 26 0 | Portland.....      | General.....         | 8 200  | 7 026 | 5 323 |
| 18                                     | 19 00 | 19 | 8 20  | 19 | 15 47 | 19 | 17 45 | British.....  | Chilean Line                 | 336 8 | 41 2 | 22 3 | Talcahuano.....    | General.....         | 192    | 3 296 | 2 156 |
| 19                                     | 5 00  | 19 | 11 38 | 19 | 19 20 | 19 | 24 00 | British.....  | Cayzer Irvins & Co.          | 339 0 | 48 1 | 23 0 | Port Lincoln.....  | United King.....     | 8 510  | 4 190 | 3 036 |
| 19                                     | 10 45 | 19 | 11 38 | 19 | 19 20 | 19 | 24 00 | British.....  | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 11 15 | 19 | 12 27 | 19 | 20 40 | 20 | 6 15  | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
| 19                                     | 12 05 | 19 | 12 57 | 19 | 20 25 | 19 | 20 25 | American..... | Standard Oil Company of Cal. | 440 0 | 58 2 | 29 0 | San Francisco..... | Lubricating oil..... | 11 000 | 9 033 | 5 938 |
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| 19                                     | 12 05 |    |       |    |       |    |       |               |                              |       |      |      |                    |                      |        |       |       |

1. All of our basis and all hours greater than 12 are postmeridian,

Wheat, flour, and general.

### PORT OF CRISTOBAL.

s Timber and shingles.

## \*DEPARTURES.

| Date.     | Vessel.                | Line.                           | From—                   | Date.     | Vessel.                 | Line.                           | For—                                       |
|-----------|------------------------|---------------------------------|-------------------------|-----------|-------------------------|---------------------------------|--------------------------------------------|
| March 19. | Zacapa.                | United Fruit Co.                | New Orleans via Habana. | March 19. | Barranca <sup>1</sup> . | Pisso Towboat Co.               | New Orleans.                               |
| March 20. | Cartago.               | United Fruit Co.                | New Orleans via Habana. | March 19. | Puerto Rico.            | French Line.                    | Puerto Colombia.                           |
| March 20. | Killing <sup>2</sup> . | Lindsay, Swann Hunter.          | Galera Bay.             | March 20. | Zacapa.                 | United Fruit Co.                | Bocas del Toro.                            |
| March 20. | Nemesis.               | Lindsay, Swann Hunter.          | Galera Bay.             | March 21. | Cartago.                | N. O. & S. A. S. Line.          | New Orleans.                               |
| March 21. | Garfield.              | W. R. Grace & Co.               | Galera Bay.             | March 21. | Camden.                 | United Fruit Co.                | Tampico.                                   |
| March 21. | Volcan.                | N. O. & S. A. S. Line.          | Puerto Colombia.        | March 22. | Panama.                 | Royal Netherlands W. I. Mail.   | Port Limon.                                |
| March 21. | Van Rensselaer.        | Royal Netherlands W. I. Mail.   | Amsterdam.              | March 22. | Advance.                | Panama Railroad Steamship Line. | Puerto Colombia.                           |
| March 21. | Gen. G. W. Goetshalk.  | Panama Railroad Steamship Line. | High seas.              | March 23. | Sixtadi.                | United Fruit Co.                | New York via Kingston.                     |
| March 22. | Santa Marta.           | United Fruit Co.                | Colombian ports.        | March 23. | Santa Marta.            | United Fruit Co.                | New York via Colombia and Jamaica.         |
| March 22. | Bolivar <sup>3</sup> . | Colombian Government.           | Cartagena.              | March 23. | Zacapa.                 | United Fruit Co.                | New Orleans.                               |
| March 22. | Guarde Costa No. 2.    | Colombian Government.           | Cartagena.              | March 23. | Cartago.                | United Fruit Co.                | New Orleans via Bocas del Toro and Habana. |
| March 23. | Zacapa.                | United Fruit Co.                | Bocas del Toro.         | March 24. | Colon.                  | Panama Railroad Steamship Line. | New York via Haiti.                        |
| March 23. | Ulua.                  | United Fruit Co.                | New York via wayports.  | March 25. | Ulua.                   | United Fruit Co.                | New York via wayports.                     |
| March 24. | Santa Marta.           | United Fruit Co.                | Port Limon.             | March 25. | Santa Marta.            | United Fruit Co.                | Boston.                                    |
| March 25. | San Bruno.             | Panama Railroad Steamship Line. | Port Limon.             | March 25. | San Bruno.              | Panama Railroad Steamship Line. | Puerto Colombia.                           |

# PORT OF BALBOA.

| 7 Motor ship. |                    | General Steamship Corp. (S. B.) |           | General Steamship Corp. (S. B.) |  |
|---------------|--------------------|---------------------------------|-----------|---------------------------------|--|
| March 22.     | Jephtha            | San Antonio, Chile.             | March 23. | Jephtha                         |  |
| March 25.     | Almirante La Torre | Mejillones, Chile.              |           |                                 |  |

\*Other than ships passing through the Canal.

\*Other than ships passing through the Canal.

Motor ship.

• Dreadnaught.



**Notice to Steamship Lines.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., March 17, 1922.

1. While not soliciting agencies for steamship lines The Panama Canal and the Panama Railroad Company, acting as one entity, are prepared to act as agent for any steamship line which, for any reason, desires such service from the Canal organization.

2. On and after June 1, 1922, such agency work will be taken over by the Superintendent, Panama Railroad Company, acting as agent through the Receiving and Forwarding Agent at Cristobal.

3. For the above service the following charges will be made:

Fee for each ship handled..... \$25.00  
Percentage charged for all funds advanced to cover disbursements of ship..... 2½ percent

4. All vessels appearing at the Canal for transit with no services required other than the ordinary fueling and supplies, when the latter are procured from the Panama Railroad supply plants, will be exempt from payment of the agent's fee of \$25.

JAY J. MORROW,  
Governor, The Panama Canal,  
President, Panama Railroad Company.

**Notice to Mariners.—San Jose Island Light.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., March 22, 1922.

The Panama Railroad steamship *Gen. H. F. Hodges* reports that at 11.30 p. m., March 21, 1922, the San Jose Island light was not burning.

This light will be put in service shortly by The Panama Canal.

JAY J. MORROW,  
Governor.

**Notice to Mariners.—Menaces to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., March 23, 1922.

Master Paulsen of the steamship *Ecuador* radioed to-day:

Passed tree 4 feet in diameter, 2 feet out of water, current SSW. ½ knot, latitude 7° 15' N., longitude 81° 59' W, at 11 a. m. to-day.

JAY J. MORROW,  
Governor.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending March 25, 1922.**

| Name of vessel.        | Line or charterer.                  | Arrived.  | Departed. | Cargo—           |                  |
|------------------------|-------------------------------------|-----------|-----------|------------------|------------------|
|                        |                                     |           |           | Discharged       | Laded.           |
|                        |                                     |           |           | Tons.            | Tons.            |
| Puerto Rico.....       | French Line.....                    | March 19. | March 19. |                  | 442              |
| Zacapa.....            | United Fruit Co.....                | March 19. | March 20. | ( <sup>1</sup> ) | 353½             |
| Essequibo.....         | Pacific Steam Navigation Co.....    | March 19. | March 20. | 110              | 102              |
| Salvador.....          | Pacific Steam Navigation Co.....    |           | March 22. |                  | 374              |
| Jamaica.....           | Pacific Steam Navigation Co.....    | March 19. | March 22. | 18               | 109              |
| Imperial.....          | Chilean Line.....                   | March 19. | March 22. | 192              | 838              |
| Gen. H. F. Hodges..... | Panama Railroad Steamship Line..... |           | March 21. |                  | 101              |
| Ecuador.....           | Pacific Mail Steamship Co.....      | March 20. | March 21. | 184              | 405              |
| Columbia.....          | N. O. & S. A. S. S. Co.....         | March 20. | March 21. | 65               | 515              |
| Cartago.....           | United Fruit Co.....                | March 20. | March 23. | 509              | 3½               |
| Van Rensselaer.....    | Royal Netherlands W. I. Mail.....   | March 21. | March 22. | 21½              | ( <sup>1</sup> ) |
| Santa Marta.....       | United Fruit Co.....                | March 22. | March 23. | 123              | 200              |
| Sixtoala.....          | United Fruit Co.....                | March 22. | March 23. | 1                | 3                |
| Zacapa.....            | United Fruit Co.....                | March 23. | March 23. | ½                | ½                |
| Advance.....           | Panama Railroad Steamship Line..... |           | March 23. |                  | 33               |
| Colon.....             | Panama Railroad Steamship Line..... |           | March 24. |                  | 2,091            |
| Eiger.....             | Caribbean Steamship Line.....       | March 23. | March 24. | 176              | ( <sup>1</sup> ) |
| Ceres.....             | Royal Netherlands W. I. Mail.....   | March 23. | March 24. | 184              | ( <sup>1</sup> ) |
| Ulua.....              | United Fruit Co.....                | March 24. | March 25. | 260              | 111              |
| Alvarado.....          | Pacific Steam Navigation Co.....    | March 24. |           | 75               |                  |
| San Bruno.....         | United Fruit Co.....                | March 25. | March 25. | 23               | 167              |
| Asian.....             | Leyland Line.....                   | March 25. |           | 667              |                  |
| Almagro.....           | Pacific Steam Navigation Co.....    | March 25. |           | 378½             |                  |
| Murla.....             | Roland Steamship Line.....          | March 25. |           | 118              |                  |
| Van Rensselaer.....    | Royal Netherlands W. I. Mail.....   | March 25. |           | 16               |                  |

\* No cargo discharged.

\* No cargo laded.



### The Practical Spirit.

The following is translated from an article "La traversée du Canal de Panama" appearing in *L'Opinion*, of Paris, of February 11, 1922:

\* \* \* Perhaps this piece of news will direct public attention to the Canal. We in France have too little appreciation of the immense services it renders to commerce—services of every description—for in the operation of this great enterprise the eminently practical spirit of the Americans has had free rein. In the course of a recent voyage I had occasion to convince myself of this.

Those who are disheartened by the incomprehensible administrative procrastination and . . . stupidities of . . . government will do well to take a trip through the Panama Canal, and see what can be done by a modern and progressive people.

A ship arrives at the Atlantic terminal, it is in a hurry and does not want to lose time by calling at Colon. But it requires to replenish its stores and fresh water supply, to have its linen laundered, and what not besides. As soon as it is signaled in the harbor at Colon a fast launch comes out to meet it, arranges for its passage through the Canal, books the orders, removes the soiled linen. There is no chin wagging and no unnecessary gestures. The ship steams on through the Canal between banks covered with palms, trailing vines, and banana plants. There are 3 locks to pass, at Gatun, at Pedro Miguel, and at Miraflores, and then the ship is in Panama Bay on the Pacific. Eight hours have sufficed to pass from ocean to ocean. A tug comes out to meet the ship. It brings fresh water, provisions of all kinds, tons of ice, stems of bananas, and—miraculously—the linen, left but a few hours before at the other end of the Canal, and now washed, ironed, and, if desired, even starched.

This is what the Americans have done at Panama. The practical spirit has its advantages.

### Memorial in Panama to the French Canal Builders.

The courtyard of Chiriqui Prison, formerly barracks for Colombian soldiers, with the adjacent Plaza de Armas, at the point of the peninsula on which the city of Panama is built, has been made into a park and named the Plaza de Francia. At the south end of the plaza, adjacent to the old sea wall, is being erected a memorial to the French who died in an effort to build the Panama Canal. The corner stone of the memorial was laid on July 14, 1921, by General Mangin, of France, while on a diplomatic tour of Latin-American countries.

The central feature of the memorial is an obelisk, 18 meters (59.06 feet) in height, surmounted by the French cock and adorned at the base by bas reliefs. Back of the obelisk is a semicircular gallery or arcade, in which are to be placed 10 tablets of stone, each 10 feet high by 6 feet wide, carved with scenes and legends representing the history of the Canal. Busts of Ferdinand de Lesseps, Lieut. Luc'ien Bonaparte Wyse, Armand Reclus, and Pedro J. Sosa, distinguished in the French Canal work, will form a part of the memorial.

The memorial is being paid for by contributions from governments, societies, and individuals. The committee in charge states that about \$25,000 has been expended and approximately \$5,000 is yet needed to bring the work to completion. Contributions may be addressed to the President of the Building Committee of the French Memorial, Mr. M. de Simonin, Charge d'Affaires of France, Panama, R. P.

THE PANAMA CANAL RECORD of March 17, 1915, in connection with the passage of the first French vessel through the Canal, reviewed briefly the history of the French work on the Isthmus. The concluding paragraph of the review stated:

The French spent close to \$250,000,000 on the Isthmus and lost about 6,283 lives in their attempts to build the Canal. Hundreds of the men who lost their lives in the French service are buried in the cemeteries on the Isthmus, where since have gone to join them hundreds who continued their work under the American flag. The French régime, 1881 to May 4, 1904, and the American, from the latter date to the present, have lost approximately equal numbers of employees by death.

### Protection for Fishermen at Gatun Spillway.

As a matter of protection to people fishing for tarpon at the end of the concrete discharge channel below the spillway of Gatun Lake, pipe railing fences have been erected on the side walls for a distance of 75 feet from the lower ends of the walls. Signs, devised especially for the information of visitors, have been erected on either side of the spillway, near the guard rails, reading as follows:

#### WARNING.

Fishing from the top of walls is prohibited except from behind rail fence.

Fishing by any other means than rod and reel is prohibited.

Fishing from spillway floor or apron is dangerous unless shoes are equipped with cleats.

Several fatal accidents have occurred among fishermen at the spillway, usually as the result of being pulled in by a large fish which struck while the fisherman was on one of the side walls, or from the fisherman's having lost his footing on the slippery floor and going into deep water beyond the end of the apron.

The fishing below the spillway, especially for tarpon, is excellent and attracts many visitors as well as local sportsmen. The Canal Zone Tarpon Club has a clubhouse near the spillway.

### Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the current issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

#### Deceased Employees.

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

| Name.               | Check No. | Native of—    | Isthmian residence. | Employed by—           | Date of death.  |
|---------------------|-----------|---------------|---------------------|------------------------|-----------------|
| William Hannah..... | 49411     | Jamaica.....  | Colon.....          | Health Department....  | March 9, 1922.  |
| Julian Martin.....  | 39747     | Colombia..... | Monte Lirio.....    | Panama Railroad Co.... | March 12, 1922. |
| Isaac Russell.....  | 58396     | Nassau.....   | La Boca.....        | Panama Railroad Co.... | March 12, 1922. |

### Official Circular.

#### Purchasers at Cristobal Commissary.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., March 23, 1922.

To all concerned—In order to prevent unauthorized persons from purchasing goods at Cristobal Commissary while the cash system is being tried out, until the end of April, it is necessary to require all patrons on entering the commissary to show their authority card for purchase of coupon books, or other satisfactory evidence establishing their authority to purchase goods at the commissary.

The General Manager, Commissary Division, upon request, will provide special forms for identification to be issued to silver employees of the Canal and the military organizations in the Cristobal and Gatun districts.

JAY J. MORROW,  
Governor.

#### Sale of Tugboat "Empire."

Sealed bids in triplicate will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., and also at the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, Canal Zone, not later than 10.30 a. m. on the 17th day of April, 1922, at which time they will be opened in public simultaneously in both offices, for the purchase of the seagoing tugboat *Empire*, 120 feet over-all length, located at Balboa, Canal Zone. Detailed information with photographs, if desired, and form of proposal (Circular No. 1471) may be had upon application to the offices of the General Purchasing Officer or the Chief Quartermaster. The Panama Canal reserves the right to reject any or all bids in its discretion.

#### Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal, Washington, D. C.

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at Cristobal, C. Z., under the Act of March 3, 1879.

*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., April 5, 1922.

No. 34.

## Fire on the "Iowan."

The steamer *Iowan* of the American-Hawaiian Line arrived at Balboa at 4.15 in the afternoon of March 31 with fire in the No. 1 hold. Advice of the situation had been sent by radio and forces of the Canal Zone Fire Department were in readiness to work on the ship upon her arrival. The master had filled the hold with sulphur gas and kept the fire under control, and the work of the fire department was to remove enough cargo to locate the center of the fire, and extinguish it. This was accomplished in about 24 hours, though on account of the gas it was difficult to tell just when all of the goods that were smouldering had been removed.

The fire is believed to have been due to spontaneous combustion in baled wool. The *Iowan* reloaded the discharged cargo, with the exception of a small quantity of ruined wool, and continued on her voyage on April 5. She is bound from Seattle to New York with lumber and general cargo.

## Collision off Atlantic Entrance to Canal.

A collision occurred between the steamers *Woolsum* and *West Himrod* beyond the Atlantic entrance to the Canal in the evening of April 2, in consequence of which both ships were damaged. The *Woolsum* was leaving the Canal, and the *West Himrod* approaching. The outgoing ship had dropped her pilot and the incoming had not taken one aboard. An investigation has been made by the Board of Local Inspectors but report has not yet been completed.

The *Woolsum* will return through the Canal to go into dry dock at Balboa; the *West Himrod* is able to continue her voyage.

## Chilean Dreadnaught Returns to Balboa Dry Dock.

The Chilean dreadnaught *Almirante Latorre* arrived at Balboa in the afternoon of March 25, and went into the 1,000-foot dry dock at 1 o'clock, March 29, for cleaning and painting and miscellaneous minor repairs to the hull below the water line. The ship came out of the dry dock on April 1, at 3 p. m., and sailed for Valparaiso on April 4.

The *Almirante Latorre* was in dry dock at Balboa last year, January 14 to 16, at the time of her passage through the Canal on her way out to Chilean waters from Great Britain, where she was built. She has returned for the necessary periodic dry docking. The dry dock at Balboa is the only one south of the United States large enough to receive this ship, which has a displacement of 32,000 tons and is 624 feet in length by 92 feet beam.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 1, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.               | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.      | Length.                            | Beam. | Salt water draft. | From— | For—          | Cargo.          |                  | Panama Canal tonnage. |       |       |
|---------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------|------------------------------------|-------|-------------------|-------|---------------|-----------------|------------------|-----------------------|-------|-------|
|                     | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |            |                                    |       |                   |       |               | Nature.         | Tons.            | Gross.                | Net.  |       |
| Pennsylvanian.      | 25               | 16    | 31             | 26    | 6                  | 30    | 26               | 14    | 46           | American.  | American-Hawaiian Line.            | 408.0 | 53.0              | 20.6  | Boston.       | Seattle.        | General.         | 3,600                 | 7,197 | 4,916 |
| Madawaska.          | 25               | 16    | 04             | 26    | 7                  | 05    | 26               | 14    | 51           | British.   | Bank Line, Ltd.                    | 373.0 | 51.1              | 26.0  | Guayabal.     | Yokohama.       | Sugar.           | 6,740                 | 5,431 | 4,174 |
| La Brea.            | 25               | 23    | 40             | 26    | 8                  | 30    | 26               | 17    | 10           | American.  | Union Oil Co.                      | 435.0 | 56.2              | 28.3  | Tampico.      | Antofagasta.    | Oil.             | 336                   | 7,150 | 4,765 |
| Muri.               | 25               | 22    | 22             | 26    | 12                 | 03    | 26               | 18    | 48           | German.    | Roland Line.                       | 207.0 | 42.0              | 12.0  | Bremen.       | Corinto.        | General.         | 336                   | 2,188 | 1,361 |
| Canadian Miller.    | 26               | 12    | 44             | 26    | 12                 | 55    | 26               | 20    | 25           | British.   | Canadian Government.               | 400.0 | 52.0              | 25.0  | New York.     | Brisbane.       | General.         | 5,000                 | 5,892 | 4,186 |
| Neponset.           | 27               | 5     | 08             | 27    | 8                  | 00    | 27               | 16    | 27           | American.  | Elder Steel Steamship Co. (S. B.)  | 434.0 | 57.7              | 23.0  | New York.     | Seattle.        | General.         | 8,209                 | 7,893 | 5,621 |
| Anna.               | 26               | 13    | 23             | 27    | 11                 | 23    | 27               | 17    | 49           | Norwegian. | P. Johannesen.                     | 265.0 | 37.1              | 12.6  | New York.     | Guayaquil.      | General, coffee. | 58                    | 1,851 | 1,179 |
| La Habra.           | 27               | 11    | 48             | 27    | 12                 | 12    | 27               | 19    | 06           | Norwegian. | W. Wilhelmsen.                     | 424.8 | 57.0              | 26.0  | Puerto Lobos. | Yokohama.       | Crude oil        | 8,682                 | 7,053 | 5,051 |
| Indiana.            | 27               | 7     | 30             | 28    | 6                  | 20    | 28               | 13    | 13           | French.    | French Line.                       | 418.0 | 56.0              | 17.0  | Havre.        | Guayaquil.      | General          | 812                   | 7,157 | 4,936 |
| West Greylack.      | 27               | 21    | 36             | 28    | 7                  | 09    | 28               | 16    | 35           | American.  | Barber Line (S. B.)                | 430.7 | 54.3              | 28.0  | Baltimore.    | Yokohama.       | General.         | 9,700                 | 7,946 | 5,698 |
| Thomas P. Beal.     | 28               | 2     | 47             | 28    | 8                  | 58    | 28               | 17    | 21           | American.  | Crowell & Thurlow                  | 394.1 | 55.1              | 22.0  | Boston.       | Seattle.        | General.         | 5,000                 | 7,017 | 4,998 |
| Brush.              | 28               | 4     | 56             | 28    | 9                  | 15    | 28               | 19    | 33           | American.  | N. Atl. & Western S. S. Co.        | 390.0 | 54.2              | 22.0  | Portland, Me. | Seattle.        | General, steel.  | 4,111                 | 6,161 | 4,292 |
| Mantaro.            | 18               | 15    | 13             | 28    | 11                 | 00    | 28               | 19    | 33           | Peruvian.  | Peruvian Steamship Line.           | 267.3 | 46.0              | 18.10 | Cristobal.    | Callao.         | General.         | 373                   | 4,838 | 2,959 |
| Santa Teresa.       | 28               | 12    | 27             | 29    | 6                  | 10    | 29               | 15    | 46           | American.  | W. R. Grace & Co.                  | 360.0 | 51.6              | 23.6  | New York.     | Talcahuano.     | General.         | 2,068                 | 5,726 | 4,088 |
| Alvarado.           | 24               | 1     | 38             | 29    | 6                  | 10    | 29               | 15    | 47           | British.   | McAndrews & Co.                    | 303.0 | 43.0              | 14.10 | New York.     | Guayaquil.      | General.         | 764                   | 2,844 | 1,748 |
| Harry Luck-enbach.  | 28               | 21    | 06             | 29    | 7                  | 30    | 29               | 16    | 51           | American.  | Luckenbach Line.                   | 449.0 | 60.0              | 21.6  | New York.     | Los Angeles.    | General.         | 3,100                 | 9,262 | 6,853 |
| Suvero.             | 29               | 1     | 20             | 29    | 8                  | 20    | 29               | 18    | 04           | British.   | Bank Line, Ltd.                    | 460.0 | 55.1              | 25.0  | New York.     | Kobe.           | General.         | 9,000                 | 8,238 | 6,270 |
| West Isleta.        | 29               | 1     | 32             | 29    | 9                  | 00    | 29               | 19    | 16           | American.  | Nawesco Line (S. B.)               | 409.8 | 54.2              | 19.0  | Portland, Me. | Portland, Oreg. | General.         | 1,442                 | 6,759 | 4,900 |
| Hattie Luck-enbach. | 29               | 2     | 50             | 29    | 9                  | 26    | 29               | 19    | 30           | American.  | Luckenbach Line.                   | 331.5 | 47.0              | 23.9  | Mobile.       | San Francisco.  | General.         | 3,700                 | 4,808 | 3,763 |
| Chattanooga.        | 28               | 23    | 07             | 29    | 11                 | 35    | 29               | 20    | 30           | American.  | United States Steel Products Co.   | 424.2 | 56.2              | 25.2  | Baltimore.    | Los Angeles.    | (?)              | 8,557                 | 7,539 | 5,448 |
| Onaka.              | 28               | 8     | 50             | 29    | 12                 | 05    | 29               | 21    | 50           | British.   | Tank Storage and Carriage Co.      | 411.8 | 52.0              | 25.8  | New York.     | Shanghai.       | Case oil         | 7,000                 | 6,532 | 4,920 |
| Saint Louis.        | 28               | 16    | 18             | 29    | 13                 | 00    | 29               | 23    | 49           | French.    | French Line.                       | 307.0 | 50.0              | 26.0  | Harve.        | Manzanillo.     | General.         | 6,200                 | 5,837 | 4,166 |
| S. C. 284.          | 30               | 7     | 10             | 30    | 12                 | 01    | 30               | 24    | 01           | American.  | United States Navy.                | 390.0 | 52.1              | 23.0  | Cristobal.    | Balboa.         | General.         | 6,310                 | 5,301 | 3,863 |
| Aspinet.            | 29               | 17    | 20             | 30    | 9                  | 29    | 30               | 16    | 35           | British.   | Standard Transportation Co.        | 424.2 | 56.2              | 26.10 | New York.     | Yokohama.       | Petroleum, gas.  | 8,537                 | 7,634 | 5,558 |
| Steel Seafarer.     | 29               | 21    | 04             | 30    | 10                 | 40    | 30               | 17    | 50           | American.  | United States Steel Products Co.   | 424.2 | 56.2              | 26.10 | New York.     | Seattle.        | General.         | 8,537                 | 7,634 | 5,558 |
| Newport.            | 26               | 17    | 55             | 31    | 6                  | 05    | 31               | 13    | 35           | American.  | Pacific Mail Steamship Co.         | 326.0 | 38.2              | 16.8  | Cristobal.    | San Francisco.  | General.         | 1,380                 | 3,173 | 2,163 |
| Roland.             | 30               | 15    | 31             | 31    | 6                  | 32    | 31               | 14    | 20           | German.    | Roland Line.                       | 351.0 | 51.0              | 19.0  | Hamburg.      | Guayaquil.      | General.         | 4,400                 | 3,701 | 3,374 |
| Kinderdijk.         | 30               | 7     | 25             | 31    | 7                  | 09    | 31               | 16    | 57           | British.   | Holland-American Line.             | 470.0 | 58.0              | 25.10 | Hamburg.      | Vancouver.      | General.         | 6,900                 | 8,517 | 6,068 |
| Port Pirie.         | 30               | 12    | 05             | 31    | 8                  | 00    | 31               | 17    | 50           | Dutch.     | Commonwealth and Dom. Line.        | 470.1 | 58.0              | 25.10 | Liverpool.    | Auckland.       | General.         | 2,500                 | 7,381 | 6,313 |
| Minnesota.          | 31               | 5     | 07             | 31    | 8                  | 58    | 31               | 19    | 16           | American.  | American-Hawaiian Line.            | 407.0 | 52.7              | 22.5  | New York.     | Los Angeles.    | General.         | 3,300                 | 7,130 | 4,913 |
| Cape Roman.         | 31               | 6     | 24             | 31    | 9                  | 27    | 31               | 20    | 03           | British.   | Atl. Gulf & Pac. S. S. Co. (S. B.) | 376.4 | 52.3              | 21.0  | Baltimore.    | Seattle.        | General.         | 5,200                 | 5,141 | 3,568 |
| Caica.              | 28               | 20    | 10             | 31    | 10                 | 35    | 31               | 20    | 10           | British.   | Pacific Steam Navigation Co.       | 246.0 | 35.0              | 15.7  | Cristobal.    | Champerico.     | General.         | 637                   | 1,989 | 1,018 |
| David Putnam.       | 31               | 6     | 15             | 31    | 6                  | 15    | 31               | 6     | 15           | American.  | United States Army.                |       |                   |       | Cristobal.    | Balboa.         |                  |                       |       |       |

\* 65,000 barrels.

\* Tin plate, steel, and general.



| THROUGH THE CANAL—PACIFIC TO ATLANTIC. |        |         |       |       |         |    |    |    |     |    |             |
|----------------------------------------|--------|---------|-------|-------|---------|----|----|----|-----|----|-------------|
| Motor ship.                            |        |         |       |       |         |    |    |    |     |    |             |
| Losada <sup>1</sup> .....              | 31     | 13      | 53    | 1     | 1       | 13 | 25 | 1  | 120 | 02 | British     |
| Nankai Maru.....                       | 31     | 15      | 24    | 1     | 1       | 15 | 35 | 1  | 16  | 57 | Japanese    |
| Wamona.....                            | 31     | 16      | 05    | 1     | 1       | 16 | 38 | 1  | 17  | 34 | British     |
| Matikana.....                          | 1      | 1       | 45    | 1     | 10      | 00 | 07 | 1  | 19  | 03 | British     |
| Itaka.....                             | 1      | 8       | 25    | 1     | 10      | 57 | 1  | 19 | 02  | 1  | Swedish     |
| Anglo-Mexican.....                     | 1      | 8       | 25    | 1     | 11      | 55 | 1  | 19 | 09  | 1  | British     |
| Pacific Steam Navigation Co.....       | 406    | 0       | 54    | 2     | 18      | 0  | 54 | 2  | 18  | 0  | Hamburg     |
| Yamashita Kisen Kaisha.....            | 385    | 0       | 52    | 0     | 25      | 0  | 52 | 0  | 25  | 0  | Santiago    |
| Shaw, Saville & Albion Co.....         | 477    | 0       | 63    | 0     | 20      | 6  | 63 | 0  | 20  | 6  | Southampton |
| Shaw, Saville & Albion Co.....         | 437    | 0       | 63    | 0     | 28      | 0  | 63 | 0  | 28  | 0  | Ferry       |
| Swedish Lloyd.....                     | 377    | 0       | 41    | 0     | 17      | 0  | 41 | 0  | 17  | 0  | New Orleans |
| Nitrates Producers S. S. Co.....       | 394    | 0       | 52    | 4     | 25      | 0  | 52 | 4  | 25  | 0  | Manatí      |
| Guayaquil.....                         | 4,417  | 7       | 221   | 4,814 | General |    |    |    |     |    |             |
| Yokohama.....                          | 6,000  | 11      | 229   | 8,252 | Sugar   |    |    |    |     |    |             |
| Wellington.....                        | 6,500  | 11,047  | 7,822 | Coal  |         |    |    |    |     |    |             |
| Talcahuano.....                        | 1,130  | General |       |       |         |    |    |    |     |    |             |
| Hongkong.....                          | 5,000  | Sugar   |       |       |         |    |    |    |     |    |             |
| Everett.....                           | 4,081  | 8,508   | 6,179 | (*)   |         |    |    |    |     |    |             |
| San Francisco.....                     | 2,120  | 3,173   | 2,163 | (*)   |         |    |    |    |     |    |             |
| Halifax.....                           | 2,388  | 5,842   | 4,092 | (*)   |         |    |    |    |     |    |             |
| General, lumber.....                   | 4,100  | 5,148   | 3,323 |       |         |    |    |    |     |    |             |
| General.....                           | 4,100  | 9,151   | 6,227 |       |         |    |    |    |     |    |             |
| Lubricating oil.....                   | 11,200 | 8,912   | 6,254 |       |         |    |    |    |     |    |             |
| Ballast.....                           | 1,499  | 203     |       |       |         |    |    |    |     |    |             |
| Phosphate.....                         | 7,500  | 5,882   | 7,118 |       |         |    |    |    |     |    |             |
| Coffee, sugar.....                     | 8,222  | 7,432   | 5,058 |       |         |    |    |    |     |    |             |
| Gasoline.....                          | 5,546  | 6,209   | 4,317 |       |         |    |    |    |     |    |             |
| General, lumber.....                   | 7,304  | 6,841   | 4,586 | (*)   |         |    |    |    |     |    |             |
| Coal test oil.....                     | 8,907  | 6,437   | 4,442 |       |         |    |    |    |     |    |             |
| Ballast.....                           | 7,486  | 5,311   |       |       |         |    |    |    |     |    |             |
| General, lumber.....                   | 8,700  | 7,983   | 5,881 |       |         |    |    |    |     |    |             |
| Navy stores.....                       | 1,000  | 6,008   | 4,065 |       |         |    |    |    |     |    |             |
| General.....                           | 6,132  | 7,833   | 6,047 |       |         |    |    |    |     |    |             |
| General.....                           | 3,105  | 6,923   | 4,623 |       |         |    |    |    |     |    |             |
| General, lumber.....                   | 6,751  | 7,634   | 5,558 |       |         |    |    |    |     |    |             |
| Cocoa.....                             | 41     | 1,187   | 622   |       |         |    |    |    |     |    |             |
| General.....                           | 1,600  | 3,819   | 2,632 |       |         |    |    |    |     |    |             |
| General.....                           | 6,750  | 7,047   | 5,030 |       |         |    |    |    |     |    |             |
| General.....                           | 558    | 3,651   | 2,787 |       |         |    |    |    |     |    |             |
| General.....                           | 1,357  | 884     |       |       |         |    |    |    |     |    |             |
| General.....                           | 2,900  | 11,487  | 8,732 |       |         |    |    |    |     |    |             |
| General.....                           | 4,552  | 3,182   |       |       |         |    |    |    |     |    |             |
| General.....                           | 6,515  | 6,394   | 4,515 |       |         |    |    |    |     |    |             |

\* Canned fruits, barley, and wheat.

† Wool, gum, and skins.

‡ Coffee, sugar, and hides.

§ Wool, canned fruits, dried fruits, lumber, and general.

|| Mine planter.

10 2,000,000 feet lumber.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 446, column 2.)

**Notice to Mariners.—San Jose Island Light.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., March 30, 1922.

The San Jose Island Light, reported out of service in my circular of March 22, 1922, was again put in service March 28, with its former characteristics.

JAY J. MORROW,  
Governor.

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**The "Garfield" Dry-docked.**

The steamer *Garfield* of the Grace Line, which was towed into Cristobal in the morning of March 20 by the Panama Canal salvage steamer *Favorite* from Galera de Zamba Bay, Colombia, where she had been aground nearly 2 months, went into dry dock at Cristobal on March 26. She was docked without the discharge of her cargo.

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**Repairing of "Arizonan" Shows Advantage of New Provision Relative to Tolls.**

The steamship *Arizonan* of the American-Hawaiian Line, which passed through the Canal on March 14, carrying 12,000 tons of general cargo from Vancouver and west coast ports of the United States for London, Liverpool, Belfast, and Glasgow, put back from the Caribbean, after losing 1 propeller blade and cracking another, and has been repaired at Balboa. In addition to renewing the blades of the propeller, the forces of the Mechanical Division raised the rudder and rewooded the stern tube bearings.

The job is principally of interest on account of its affording a striking application of the rule established under the Executive Order of November 17, 1921, that vessels transiting the Canal for the sole purpose of receiving repairs at Balboa shops are exempted from the payment of tolls. Tolls on the *Arizonan*, a vessel of 6,970 net tons, Panama Canal measurement, and 6,514 net tons, United States measurement, amount to \$8,142.50 when she is laden. For transiting for the sake of repairs, however, the charges for transit were at the rate of \$5 per foot of draft, amounting to \$155, for 31 feet. There were additional charges for towage, made necessary by the ship's condition.

After returning through the Canal the *Arizonan* discharged about 7,000 tons of her cargo at Pier 18, Balboa, and went into dry dock with the rest. She entered the dry dock in the afternoon of March 26, and left it in the morning of March 28.

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**Chilean Fruit.**

A little more than a year ago 2 experimental shipments of fruit were dispatched from Chile to New York, in the expectation that an important trade might be developed, based primarily on the opposition of the seasons north and south of the equator, which enables Chile to ship freshly picked fruits in midwinter and early spring. The first consignment is reported to have met with gratifying success, but the second resulted in failure, due apparently to careless packing.

Since then the Chilean government has carefully investigated the possibilities and the requirements of the New York market, and fresh attempts have been made under government patronage and encouragement to develop the trade. The steamship *Essequibo* of the Pacific Steam Navigation Company, which passed through the Canal on February 19, carried Chilean fruit valued in Chile at 100,000

pesos and estimated to be worth a like amount in dollars landed in New York. This included grapes, peaches, cherries, plums, etc., all carefully packed and inspected by a government expert before shipment.

The results, as nearly as can be ascertained on the Isthmus at this time, were entirely satisfactory.

The full development of this trade may have to await the assignment of specially constructed steamers. Those now available were not designed to carry fruit, and are not as well adapted to that service as they might be. In any case the trade will be seasonal and confined to the late winter and early spring; but it may nevertheless assume important proportions.

### Surplus Material For Sale.

Due to decreased demands, large quantities of material of many classes now in stock in the Panama Canal Zone, purchased for Canal maintenance and for repairs and issues to vessels, has been declared surplus and is being offered for sale to the public.

Endeavor will first be made to effect sale of certain classes of material which can be satisfactorily sold from description without physical inspection by bidders prior to shipment from the Isthmus, on a basis of delivery f. o. b. dock New York Harbor or f. a. s. vessel at the Isthmus, as desired by bidders.

It is desired, if practicable, to sell this material for shipment to markets such as will make its present location an advantage as compared with material which might be shipped from the United States, such markets, for example, as South and Central American countries, Japan, China, Spain, etc.

Parties interested should apply for full information and description of the different classes of material available by communicating with the General Purchasing Officer, The Panama Canal, Washington, D. C., or the Chief Quartermaster, The Panama Canal, Balboa Heights, Canal Zone, advising, in so far as possible, the particular kinds of material in the purchase of which they would be interested.

Among the materials available in important quantities are items such as bearing metals, sheet metals, bronze mosquito screening, horse and mule shoes, air-brake material, scales, chain, tackle blocks, sheet glass, paints and varnishes, lubricating oils and grease, fire bricks, vitrified pipe and fittings, millwork, canvas, rope, hose, nails, marine hardware, general hardware, bolts, nuts, and rivets, cable, electrical material, building materials, tools, iron and steel bars, plates and shapes, and repair parts for various kinds of equipment.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending April 1, 1922.

| Name of vessel. | Line or charterer.               | Arrived.      | Departed.     | Cargo—     |        |
|-----------------|----------------------------------|---------------|---------------|------------|--------|
|                 |                                  |               |               | Discharged | Laded. |
|                 |                                  |               |               | Tons.      | Tons.  |
| La Brea.....    | Union Oil Co.....                | March 26..... | March 26..... | 1,444      | .....  |
| Newport.....    | Pacific Mail Steamship Co.....   | March 26..... | March 26..... | 36         | .....  |
| Quincy.....     | United States Navy.....          | March 29..... | March 30..... | 70         | .....  |
| Jamaica.....    | Pacific Steam Navigation Co..... | March 30..... | March 31..... | 1          | .....  |
| Newport.....    | Pacific Mail Steamship Co.....   | March 31..... | March 31..... | .....      | 10     |
| Alvarado.....   | Pacific Steam Navigation Co..... | March 29..... | March 29..... | .....      | 20     |
| Manavi.....     | Pacific Steam Navigation Co..... | March 31..... | April 1.....  | 2          | .....  |



**Report of Cargo Discharged and Laded by Vessels Entering and Clearing  
from Port of Cristobal for Week Ending April 1, 1922.**

| Name of vessel.  | Line or charterer.                   | Arrived.      | Departed.     | Cargo—     |        |
|------------------|--------------------------------------|---------------|---------------|------------|--------|
|                  |                                      |               |               | Discharged | Laded. |
|                  |                                      |               |               | Tons.      | Tons.  |
| Almagro.....     | Pacific Steam Navigation Co.....     |               | March 26..... |            | 217    |
| Atenas.....      | United Fruit Co.....                 | March 26..... | March 27..... | 2          | 105    |
| Anna.....        | Caribbean Steamship Line.....        | March 26..... | March 27..... | 100        | (*)    |
| Asian.....       | Leyland Line.....                    |               | March 28..... |            | 400    |
| Alvarado.....    | Pacific Steam Navigation Co.....     |               | March 29..... |            | 388    |
| Newport.....     | Pacific Mail Steamship Co.....       | March 26..... | March 31..... | 2,128      | 1,380  |
| Ebro.....        | Pacific Steam Navigation Co.....     | March 27..... | March 27..... | 5          | (*)    |
| Eupatoria.....   | Hamburg-American Line.....           | March 27..... | March 28..... | 1½         | (*)    |
| Heredia.....     | United Fruit Co.....                 | March 27..... | March 29..... | 691        | 84     |
| La Navarre.....  | French Line.....                     | March 27..... | March 30..... | 103        | 698    |
| Indiana.....     | French Line.....                     | March 27..... | March 28..... | 23         | (*)    |
| Panama.....      | Panama Railroad Steamship Line.....  | March 28..... |               | 1,904      |        |
| Savoia.....      | Italian Steamship Line.....          | March 28..... |               | 160        |        |
| Saint Louis..... | French Line.....                     | March 28..... | March 29..... | 27         | 72     |
| Cauca.....       | Pacific Steam Navigation Co.....     | March 28..... | March 31..... | 1,385      | 637    |
| San Gil.....     | United Fruit Co.....                 | March 29..... | March 30..... | 69         | 146    |
| Advance.....     | Panama Railroad Steamship Line.....  | March 29..... |               | 140        |        |
| Atenas.....      | United Fruit Co.....                 | March 30..... | March 30..... | 4          | 1      |
| Kinderdijk.....  | Holland-American Steamship Line..... | March 30..... | March 31..... | 37         | 97     |
| Trophon.....     | Anglo-Saxon Petroleum Co.....        | March 30..... | April 1.....  | 5,400      | (*)    |
| Losada.....      | Pacific Steam Navigation Co.....     | March 31..... | April 1.....  | 113½       | 42     |
| Jamaica.....     | Pacific Steam Navigation Co.....     | March 31..... |               | 71         |        |
| Tolosa.....      | United Fruit Co.....                 | March 31..... | April 1.....  | 374        | 90     |
| Bayano.....      | Elders & Fyffes, Ltd.....            | April 1.....  | April 1.....  | 35         | * 4    |
| Manavi.....      | Pacific Steam Navigation Co.....     | April 1.....  |               | 70         |        |
| Huasco.....      | Chilean Line.....                    | April 1.....  |               | 50         |        |
| Sonora.....      | French Line.....                     | April 1.....  |               | 48         |        |

\* No cargo laded.

\* Packages.

**Ships at Canal Repair Shops.**

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended March 28:

Steamships *San Joaquin*, remove, reverse, and reassemble cathead on anchor windlass; *Alloway*, manufacture piston, piston rod, 2 rings, and drill studs out of cylinder.

**PREVIOUSLY REPORTED.**

Barge *No. 13*, dock and undock; clean bottom and paint; install 8 new shell plates.

The following vessels were at the Cristobal shops for repairs during the two weeks ended April 3:

Steamships *Garfield*, open up boilers; scale and clean; remove and clear sea inlet and discharge pipes; open up, clear, and repair main refrigerator and auxiliary condensers; test and repair fuel oil and feed heaters; test all tanks; repair bottom as directed; overhaul and adjust steering engine, windlass, and capstan; open up, clear, and repair fresh water pump, main circulating pump, ballast and sanitary pumps; repair jacking engine; overhaul all bilge piping, etc.; *Killerig*, dock, clean, and paint; repair bulkheads; make 4 ash buckets; renew zincs; open up and examine sea valves and strainers, etc.; *Nemesis*, dock, clean, and paint; install new tail shaft; rewood stern tube; repair rudder; overhaul leads to steering gear; weld hawse pipe; renew and weld rivets in bow as directed; renew zincs; open up, examine and repair sea valves and strainers, etc.; *Gen. G. W. Goethals*, repair H. P. cylinder and cover; calk passenger deck; *Panama*, manufacture new worm and pinion for main engine turning gear; manufacture and install tripper on port anchor; clear main feed heater coils; repair sanitary line in No. 3 hold; *Advance*, overhaul forward dynamo; repair ceiling in coal bunkers; repair bilge suction line; install mooring chock, aft; repair motor boat; repair anchor windlass, etc.; *Birmingham City*, repair steering engine, etc.; *Jamaica*, supply and fit 4 steel patches and 2 angle stiffeners on after bulkhead of bunker; repair sanitary pump; renew floor and guard plates in stokehold; repair ventilators; clear and repair miscellaneous piping, etc.; *Cauca*, repair crank shaft of ice machine; repair auxiliary sanitary pump; repair



port lifeboat, renew ballast pump discharge pipe, etc.; motor ship *Laura C. Hall*, repair pump; install 2 catheads; *Manavi*, renew ventilator grating; manufacture 2 guy wires; repair block, etc.; motor boat *Bolivar*, install struts; line up engines and repair cylinders; clean and paint hull, etc.; Colombian cutter No. 2, overhaul engines; repair bulwarks and ports; clean and paint hull, etc.; steamships *Ceres*, *Eiger*, *La Navarre*, *Eldorado*, *Indiana*, *Heredia*, U. S. S. O-13, U. S. steamer *Douglas*, and launches *Cruces*, *Patrol*, and *Hibiscus*, minor repairs.

### Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE DEPARTMENT,  
BALBOA HEIGHTS, C. Z., April 3, 1922.

On April 2, 1922, Master Judson, steamship *Delco*, reports sighting a log 30 feet long, 3 feet in diameter, Lat. 8° 57' N., Long. 83° 20' W. Dangerous to navigation.

J. J. MORROW,  
Governor.

### Deceased Employees.

The estates of the following deceased employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

| Name.                  | Check No. | Native of—       | Isthmian residence. | Employed by—           | Date of death.  |
|------------------------|-----------|------------------|---------------------|------------------------|-----------------|
| James Campbell.....    | 22374     | Jamaica.....     | La Boca.....        | Coaling Station.....   | March 19, 1922. |
| James McDonald.....    | 33748     | St. Lucia.....   | Paraiso.....        | Dredging Division..... | March 27, 1922. |
| Chester E. Nevius..... | 787       | United States... | Aneon.....          | Executive Department.  | March 22, 1922. |
| James Nancis.....      | 38652     | Barbados.....    | Colon.....          | Supply Department...   | March 28, 1922. |

### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective April 1, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.20 |
| Brass, sheet, average.....                                        | Lb.            | .31    |
| Bronze, Tobin, average.....                                       | Lb.            | .25    |
| Gasoline, motor grade.....                                        | Gal.           | .3125  |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .11    |
| Oakum, Navy, unspun.....                                          | Lb.            | .14    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Pbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .51    |
| Oil, burning.....                                                 | Gal.           | 1.06   |
| Oil, engine, gas, in barrels.....                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .50    |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .40    |
| Oil, kerosene, in drums.....                                      | Gal.           | .21    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .56    |
| Paint, lead, white, dry.....                                      | Lb.            | .09    |
| Paint, lead, white, in oil.....                                   | Lb.            | .09    |
| Paint, zinc, white, dry.....                                      | Lb.            | .15    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .16    |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .09    |
| Soda, ash.....                                                    | Lb.            | .03    |
| Waste, cotton, colored.....                                       | Lb.            | .175   |
| Waste, cotton, white.....                                         | Lb.            | .20    |

## Official Circulars.

## Acting Collector.

THE PANAMA CANAL,  
EXECUTIVE DEPARTMENT,  
BALBOA HEIGHTS, C. Z., March 31, 1922.

To all concerned—The designation of Mr. Frank M. Sawyer to act for the Collector of The Panama Canal, Mr. A. H. Mohr, during his absence on leave, effective April 1, 1922, is hereby announced.

JAY J. MORROW,  
Governor.

## Proposed Sailings of Panama Railroad Vessels.

On account of a delay to the steamship *General G. W. Goethals*, the schedule of sailings of steamers of the Panama Railroad Steamship Line has been revised to the following:

## CRISTOBAL TO NEW YORK.

| Steamer.            | Leave.   | Arrive.   |
|---------------------|----------|-----------|
| Panama              | April 7  | April 15. |
| Colon               | April 19 | April 27. |
| Gen. G. W. Goethals | April 29 | May 7.    |
| Panama              | May 8    | May 16.   |
| Colon               | May 19   | May 27.   |
| Gen. G. W. Goethals | May 29   | June 6.   |
| Panama              | June 8   | June 16.  |
| Colon               | June 19  | June 27.  |
| Gen. G. W. Goethals | June 29  | July 7.   |
| Panama              | July 8   | July 16.  |

## NEW YORK TO CRISTOBAL.

|                     |          |           |
|---------------------|----------|-----------|
| Colon               | April 5  | April 13. |
| Gen. G. W. Goethals | April 15 | April 23. |
| Panama              | April 25 | May 2.    |
| Colon               | May 5    | May 13.   |
| Gen. G. W. Goethals | May 15   | May 23.   |
| Panama              | May 25   | June 2.   |
| Colon               | June 5   | June 13.  |
| Gen. G. W. Goethals | June 15  | June 23.  |
| Panama              | June 25  | July 2.   |

## Sale of Tugboat "Empire."

Sealed bids in triplicate will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., and also at the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, Canal Zone, not later than 10.30 a. m. on the 17th day of April, 1922, at which time they will be opened in public simultaneously in both offices, for the purchase of the seagoing tugboat *Empire*, 120 feet over-all length, located at Balboa, Canal Zone. Detailed information with photographs, if desired, and form of proposal (Circular No. 1471) may be had upon application to the offices of the General Purchasing Officer or the Chief Quartermaster. The Panama Canal reserves the right to reject any or all bids in its discretion.

## Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 441.

## PORT OF CRISTOBAL.

## \*ARRIVALS.

## \*DEPARTURES.

| Date.     | Vessel.                  | Line.                            | From—                        | Date.     | Vessel.                | Line.                           | For—                   |
|-----------|--------------------------|----------------------------------|------------------------------|-----------|------------------------|---------------------------------|------------------------|
| March 28. | St. Mihiel <sup>11</sup> | United States Army               | New York via San Juan.       | March 27. | Atenas                 | United Fruit Co.                | Bocas del Toro.        |
| March 28. | Atenas                   | United Fruit Co.                 | New Orleans via Habana.      | March 28. | Eupatoria              | Hamburg-American Line.          | Port Limon.            |
| March 28. | Hannibal                 | United States Navy               | Tientsin.                    | March 28. | Asian                  | Panama Railroad Steamship Line. | New Orleans.           |
| March 28. | Hennia                   | United Fruit Co.                 | New Orleans.                 | March 29. | St. Mihiel.            | United States Army              | New York via Haiti.    |
| March 27. | La Navarre               | French Line                      | Havre via wayports.          | March 29. | Atenas                 | United Fruit Co.                | New York.              |
| March 27. | Eupatoria                | Hamburg-American Line            | Hamburg via wayports.        | March 30. | San Gil                | United Fruit Co.                | New Orleans.           |
| March 28. | Panama                   | Panama Railroad Steamship Line.  | New York via Haiti.          | March 30. | Killerig <sup>12</sup> | Lindsay, Swann Hunter           | Boston via Port Limon. |
| March 28. | Savona                   | Italian Line                     | Genoa via wayports.          | March 30. | Nemesis <sup>12</sup>  | Lindsay, Swann Hunter           | Kingston.              |
| March 28. | San Gil                  | United Fruit Co.                 | Boston via Habana.           | March 30. | La Navarre             | French Line.                    | Puerto Colombia.       |
| March 28. | Advance                  | Panama Railroad Steamship Line.  | Pto. Colombia and Cartagena. | April 1.  | Megantic               | White Star Line.                | New York via wayports. |
| March 30. | Atenas                   | United Fruit Co.                 | Bocas del Toro.              | April 1.  | Trophon                | Anglo-Saxon Petroleum Co.       | New York via wayports. |
| March 30. | Trophon                  | Anglo-Saxon Petroleum Co.        | Tampico.                     | April 1.  | Bayano                 | Ellers & Fyffes, Ltd.           | Curacao.               |
| March 31. | Megantic                 | White Star Line                  | New York via wayports.       | April 1.  |                        |                                 | Kingston.              |
| March 31. | Tolia                    | United Fruit Co.                 | New York via wayports.       |           |                        |                                 |                        |
| March 30. | Birmingham City.         | United States Steel Products Co. | High seas.                   |           |                        |                                 |                        |
| April 1.  | Bayano                   | Ellers & Fyffes, Ltd.            | Port Limon.                  |           |                        |                                 |                        |

\*Other than ships passing through the Canal.

<sup>11</sup> Transport. <sup>12</sup> Tug.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., April 12, 1922.

No. 35.

## The "Tavernilla" Sent to Assist the "Willpolo."

In response to a request of the operators of the steamship *Willpolo*, which reported herself in distress off the coast of Nicaragua, near Corinto, The Panama Canal tug *Tavernilla* left Balboa in the night of April 10 to tow the vessel to San Pedro. The tug *Sea Lion* was also sent out by the owners, from San Francisco to assist.

## The "Gorgona" Sent to Tow in the "W. J. Hanna."

The tug *Gorgona* left Balboa on April 8 to bring in the Standard Oil tanker *W. J. Hanna*, which was in distress off the coast of Peru, with a broken crankshaft. Repairs will be made at Balboa shops.

## Increased Services of French Line.

The services of the Compagnie Generale Transatlantique between ports of France, Belgium, Holland, and Germany and the west coasts of South and North America have been expanded considerably. The South American service was begun in January, 1920, and the North American service in December, 1921. The agent of the company at Cristobal reports that 8 steamers are engaged now in the South American service and 11 in the North American service. The 8 plying to South America are the *St. Jean*, *Indiana*, *Hudson*, *Virginia*, *Georgia*, *Texas*, *Maryland*, and *Ontario*. Those reported in the North American service are the *Honduras*, *Mississippi*, *St. Joseph*, *Montana*, *St. Louis*, *Sonora*, *St. Andre*, *Alaska*, *Alabama*, *Arizona*, and *Iowa*.

## Vessel Launched for Chilean Line's Projected New York and European Service.

Advice has been received from the agent on the Isthmus for the South American Steamship Company (the Cia. Sud Americana de Vapores, the Chilean Line) of the launching at Greenock, Scotland, of the turbine twin-screw steamer *Anconagua*, to be used with another vessel of the same type, now building, in a mail, passenger, and cargo service from Valparaiso to New York and Europe and return.

The *Anconagua* is 438 feet in length, over all, 56 feet in moulded breadth, and 33 feet in depth moulded to bulkhead deck. She is of approximately 7,000 tons gross, and her turbines are to develop 8,500 shaft horsepower and drive the ship at a speed of 17 knots. On account of the varied climatic conditions under which the vessel is to be operated, special consideration has been given to the heating and ventilating arrangements.

The new *Anconagua* is to replace a veteran ship of the same name now in the service of the company. They are named for Mount Anconagua, the highest mountain in Chile.

No prophecy can be made by the local agency as to the time at which the new service will be begun.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 8, 1922.

## THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                      | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length.   | Beam. | Salt water draft. | From—         | For—           | Cargo.            |               | Panama Canal tonnage. |        |       |
|----------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|-----------|-------|-------------------|---------------|----------------|-------------------|---------------|-----------------------|--------|-------|
|                            | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |           |       |                   |               |                | Nature.           | Tons.         |                       | Gross. | Net.  |
| Willpelo                   | 1                | 23 19 | 2              | 6 35  | 2                  | 6 45  | 2                | 14 55 | 2            | 16 20                            | American. | 386 8 | 52 2              | 24 0          | New York.      | Los Angeles.      | General Coal. | 5,874                 | 5,480  | 4,112 |
| Cacoeque                   | 2                | 6 35  | 2              | 7 48  | 2                  | 16 06 | 2                | 17 06 | American.    | Grace Line.                      | 394 2     | 52 3  | 18 0              | Newport News. | Iquique.       |                   |               | 2,040                 | 6,952  | 4,913 |
| Scottish Monarch           | 1                | 20 05 | 2              | 8 45  | 2                  | 17 08 | 2                | 18 08 | British.     | Raeburn Verril.                  | 420 0     | 54 0  | 26 8              | San Cruz.     | Formosa.       | Sugar.            | 7,620         | 6,321                 | 4,548  |       |
| Radnor                     | 2                | 9 45  | 2              | 10 13 | 2                  | 18 25 | 2                | 18 25 | American.    | Barber Line (S. B.)              | 434 0     | 57 7  | 28 6              | New York.     | Hongkong.      | General.          | 10,114        | 7,993                 | 5,879  |       |
| Celestial                  | 2                | 6 30  | 2              | 12 30 | 2                  | 20 25 | 2                | 21 39 | American.    | Dollar Line.                     | 429 0     | 55 2  | 27 10             | New York.     | Los Angeles.   | General.          | 8,758         | 7,579                 | 5,527  |       |
| Huntingdon.                | 3                | 3 47  | 3              | 7 06  | 3                  | 15 37 | 4                | 18 06 | British.     | Federal Steam Navigation Co.     | 520 0     | 64 0  | 21 6              | London.       | Wellington.    | General.          | 4,750         | 12,209                | 8,411  |       |
| Arapahoe <sup>1</sup>      | 3                | 11 25 | 3              | 11 45 | 3                  | 21 30 | 4                | 18 06 | American.    | Alaska Packers Assn. (S. B.)     | 276 0     | 40 0  | 21 6              | Norfolk.      | San Francisco. | Coal.             | 3,500         | 2,200                 | 2,658  |       |
| Laura C. Hall <sup>2</sup> | 2                | 20 15 | 4              | 6 23  | 4                  | 14 30 | 4                | 17 31 | British.     | Pacific Metals Corporation.      | 81 0      | 26 0  | 9 0               | Cristobal.    | Buenaventura.  | General.          | 32            | 132                   | 72     |       |
| Manavi <sup>3</sup>        | 1                | 14 45 | 4              | 11 00 | 4                  | 17 27 | 4                | 22 09 | British.     | Pacific Steam Navigation Co.     | 216 0     | 35 1  | 11 7              | Cristobal.    | Guayaquil.     | General.          | 152           | 1,357                 | 884    |       |
| Bocamante <sup>4</sup>     | 4                | 11 35 | 4              | 12 15 | 4                  | 18 50 | 4                | 23 58 | Chilean.     | Compañia Schwager.               | 200 0     | 44 0  | 19 0              | Plymouth.     | Valparaiso.    | General and coal. | 2,700         | 2,630                 | 1,517  |       |
| C. E. No. 1 <sup>5</sup>   | 4                | 11 35 | 4              | 12 15 | 4                  | 18 50 | 4                | 23 58 | American.    | C. A. Blair.                     | 12 0      | 24 0  |                   | Cristobal.    | Gatun Lake.    | Ballast.          | 7             | 7                     | 7      |       |
| C. E. No. 2 <sup>6</sup>   | 4                | 11 35 | 4              | 12 15 | 4                  | 18 50 | 4                | 23 58 | American.    | C. A. Blair.                     | 12 0      | 24 0  |                   | Cristobal.    | Gatun Lake.    | Ballast.          | 7             | 7                     | 7      |       |
| West Catalace.             | 4                | 19 25 | 5              | 6 30  | 5                  | 14 07 | 5                | 15 14 | American.    | Elder Steel Steamship Co.        | 410 5     | 54 3  | 23 0              | Philadelphia. | Seattle.       | General.          | 5,995         | 6,567                 | 4,917  |       |
| K. I. Luckenbach           | 5                | 1 08  | 5              | 7 22  | 5                  | 15 28 | 5                | 16 27 | American.    | Luckenbach Line.                 | 470 0     | 56 0  | 25 0              | New York.     | San Francisco. | General.          | 7,000         | 8,552                 | 6,236  |       |
| Santa Paula                | 5                | 5 43  | 5              | 8 17  | 5                  | 16 25 | 5                | 17 15 | American.    | Grace Line.                      | 404 0     | 54 0  | 16 0              | Charleston.   | West coast.    | Ballast.          | 7,000         | 7,445                 | 4,825  |       |
| Makalla                    | 5                | 7 39  | 5              | 9 10  | 5                  | 17 21 | 5                | 22 00 | British.     | T. and J. Brookbank.             | 445 0     | 58 0  | 23 0              | London.       | Auckland.      | General.          | 7,000         | 7,445                 | 4,910  |       |
| Wolsam                     | 2                | 16 00 | 5              | 12 20 | 5                  | 19 47 | 6                | 14 12 | Dutch.       | Vinke & Co.                      | 360 0     | 48 0  | 30 4              | Cristobal.    | Balboa.        | General.          | 4,500         | 4,742                 | 3,534  |       |
| Huaseo                     | 1                | 16 00 | 6              | 6 20  | 6                  | 13 09 | 6                | 15 50 | American.    | Chilean Steamship Line.          | 379 7     | 44 0  | 25 0              | Cristobal.    | Valparaiso.    | General.          | 520           | 4,552                 | 3,182  |       |
| Knoxville City             | 5                | 9 41  | 6              | 7 23  | 6                  | 14 40 | 6                | 17 52 | British.     | United States Steel Products Co. | 424 0     | 56 0  | 26 0              | Baltimore.    | Los Angeles.   | General.          | 8,550         | 7,539                 | 5,448  |       |
| Crosshill                  | 5                | 15 01 | 6              | 8 25  | 6                  | 15 38 | 6                | 24 00 | Danish.      | MacBeth & Co.                    | 385 3     | 52 0  | 30 3              | Hueytas.      | Hongkong.      | Sugar.            | 5,250         | 5,140                 | 3,510  |       |
| Panama <sup>4</sup>        | 5                | 11 19 | 6              | 8 45  | 6                  | 16 42 | 6                | 17 51 | American.    | East Asiatic Steamship Co.       | 410 0     | 55 0  | 20 2              | Hamburg.      | Tacahano.      | General.          | 4,696         | 7,027                 | 5,330  |       |
| Mexico Maru                | 5                | 16 31 | 6              | 9 35  | 6                  | 17 51 | 6                | 18 58 | Japanese.    | Osaka Shosen Kaisha.             | 409 0     | 51 0  | 24 10             | Buenos Aires. | Yokohama.      | Steel and cotton. | 7,810         | 7,539                 | 5,448  |       |
| Steel Inventor.            | 5                | 23 31 | 6              | 10 30 | 6                  | 19 00 | 6                | 20 04 | American.    | United States Steel Products Co. | 424 0     | 56 0  | 26 0              | New York.     | Yokohama.      | Sugar.            | 6,354         | 5,476                 | 4,677  |       |
| West Hinnord               | 2                | 19 40 | 6              | 12 07 | 6                  | 19 53 | 6                | 21 15 | American.    | Barber Line (S. B.)              | 410 0     | 54 2  | 29 9              | New York.     | Valparaiso.    | General and coke. | 3,547         | 5,037                 | 3,492  |       |
| Sherman                    | 2                | 19 20 | 7              | 6 22  | 7                  | 13 46 | 7                | 15 00 | American.    | Sherman Steamship Co.            | 400 3     | 45 3  | 23 0              | New York.     | Valparaiso.    | Naval stores.     | 3,527         | 5,037                 | 3,492  |       |
| Capella                    | 2                | 7 00  | 7              | 8 45  | 7                  | 17 05 | 7                | 20 55 | American.    | United States Navy.              | 390 0     | 54 0  | 22 11             | New York.     | Valparaiso.    | Naval stores.     | 3,527         | 5,037                 | 3,492  |       |
| Miss Cristobal             | 2                | 7 00  | 7              | 8 45  | 7                  | 17 05 | 7                | 20 55 | American.    | L. W. Parsons.                   | 24 4      | 7 0   | 2 0               | Cristobal.    | Balboa.        | Ballast.          | 2             | 2                     | 2      |       |
| Gymerie                    | 7                | 16 08 | 8              | 6 21  | 8                  | 14 13 | 8                | 15 40 | British.     | Bank Line, Ltd.                  | 420 3     | 54 6  | 18 2              | Belfast.      | San Francisco. | Ballast.          | 6,501         | 4,459                 | 4,459  |       |
| Volumbia                   | 8                | 6 30  | 8              | 7 17  | 8                  | 15 22 | 8                | 21 00 | British.     | Gow Harrison & Co.               | 423 0     | 56 0  | 26 0              | New York.     | Shanghai.      | Sugar and steel.  | 7,300         | 6,229                 | 4,524  |       |
| Colombia                   | 6                | 15 37 | 8              | 9 00  | 8                  | 16 28 | 9                | 18 50 | American.    | Pacific Mail Steamship Co.       | 380 0     | 48 7  | 24 8              | Baltimore.    | San Francisco. | General.          | 2,464         | 6,015                 | 4,281  |       |
| Yang Tze                   | 8                | 6 45  | 8              | 10 50 | 8                  | 18 20 | 9                | 19 30 | British.     | Alfred Holt & Co.                | 450 0     | 53 0  | 26 6              | New York.     | Yokohama.      | Iron, machinery.  | 6,536         | 7,042                 | 5,021  |       |

s Launch.

4 Motor ship.

3 Barge.

2 Motor schooner.

1 Sailing ship.





# Commercial Traffic Through the Panama Canal in March, 1922, by Trade Routes.

## ATLANTIC TO PACIFIC.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.      | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |                   |
| <i>From east coast of United States to Far East:</i>                    |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| British.....                                                            | 9               | 39,200                    | 47,768            | 53,583            | 35,577          | \$48,536.75 | 71,442            |
| Japanese.....                                                           | 10              | 41,164                    | 44,872            | 58,645            | 39,394          | 50,688.70   | 67,692            |
| United States.....                                                      | 5               | 23,258                    | 27,073            | 32,093            | 20,720          | 29,672.50   | 37,901            |
| Norwegian.....                                                          | 2               | 7,773                     | 8,807             | 11,425            | 7,038           | 9,560.95    | 15,214            |
| Totals.....                                                             | 26              | 111,395                   | 128,520           | 157,746           | 102,729         | 137,958.90  | 192,249           |
| <i>United States coastwise:</i>                                         |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 34              | 129,834                   | 162,572           | 200,614           | 129,288         | 161,738.65  | 141,648           |
| <i>From east coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 7               | 19,423                    | 25,217            | 32,495            | 19,638          | 21,676.05   | 12,959            |
| British.....                                                            | 4               | 11,154                    | 13,991            | 18,959            | 11,531          | 13,942.50   | 10,695            |
| Norwegian.....                                                          | 2               | 1,854                     | 2,658             | 3,124             | 1,848           | 2,317.50    | 96                |
| Swedish.....                                                            | 1               | 1,440                     | 1,399             | 2,257             | 1,583           | 1,678.80    | 2,129             |
| Totals.....                                                             | 14              | 33,871                    | 43,265            | 56,835            | 34,600          | 39,614.85   | 25,879            |
| <i>From Europe to Australasia:</i>                                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 9               | 40,585                    | 54,848            | 62,162            | 39,047          | 49,963.12   | 35,505            |
| <i>From Europe to west coast of South America:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 3               | 13,013                    | 16,449            | 20,990            | 13,129          | 16,266.25   | 7,046             |
| German.....                                                             | 3               | 7,901                     | 10,830            | 11,785            | 6,913           | 9,876.25    | 7,243             |
| Italian.....                                                            | 1               | 3,353                     | 4,310             | 5,868             | 3,579           | 4,191.25    | 1,400             |
| French.....                                                             | 1               | 4,089                     | 4,936             | 5,617             | 3,491           | 5,111.25    | 812               |
| Dutch.....                                                              | 1               | 1,605                     | 3,123             | 2,672             | 1,629           | 2,006.25    | 1,044             |
| Totals.....                                                             | 9               | 29,961                    | 39,648            | 46,932            | 28,741          | 37,451.25   | 17,545            |
| <i>From Cristobal, C. Z., to west coast of South America:</i>           |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 3               | 1,469                     | 1,974             | 2,600             | 1,605           | 1,836.25    | 1,236             |
| Chilean.....                                                            | 2               | 3,072                     | 5,224             | 6,543             | 3,921           | 3,840.00    | 1,436             |
| Peruvian.....                                                           | 2               | 2,719                     | 5,345             | 9,020             | 4,517           | 3,398.75    | 769               |
| Totals.....                                                             | 7               | 7,260                     | 12,543            | 18,163            | 10,043          | 9,075.00    | 3,441             |
| <i>From Europe to west coast of United States:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 6,187                     | 7,695             | 9,727             | 6,162           | 6,562.69    | 850               |
| French.....                                                             | 1               | 3,631                     | 4,166             | 5,818             | 3,712           | 4,538.75    | 6,200             |
| Norwegian.....                                                          | 1               | 4,523                     | 5,627             | 7,003             | 4,479           | 5,653.75    | 8,180             |
| Swedish.....                                                            | 1               | 2,622                     | 4,035             | 4,315             | 3,329           | 3,277.50    | 5,587             |
| United States.....                                                      | 1               | 4,062                     | 5,058             | 6,502             | 4,015           | 5,077.50    | 1,918             |
| Totals.....                                                             | 6               | 21,025                    | 26,581            | 33,455            | 21,697          | 25,110.19   | 22,735            |
| <i>From Cristobal, C. Z., to west coast of Central America:</i>         |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 4               | 2,799                     | 3,108             | 4,874             | 2,844           | 3,184.49    | 1,393             |
| United States.....                                                      | 1               | 1,622                     | 1,982             | 2,671             | 1,664           | 2,027.50    | 88                |
| Totals.....                                                             | 5               | 4,421                     | 5,090             | 7,545             | 4,508           | 5,211.99    | 1,481             |
| <i>From east coast of United States to Australasia:</i>                 |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 4               | 17,563                    | 23,698            | 27,975            | 17,632          | 21,953.75   | 23,080            |
| United States.....                                                      | 1               | 4,530                     | 4,561             | 5,840             | 4,497           | 5,473.20    | 6,700             |
| Totals.....                                                             | 5               | 22,093                    | 28,259            | 33,815            | 22,129          | 27,426.95   | 29,780            |
| <i>From Europe to west coast of Canada:</i>                             |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 5,764                     | 7,595             | 9,409             | 5,812           | 7,205.00    | 9,346             |
| Dutch.....                                                              | 1               | 4,869                     | 6,068             | 7,651             | 4,796           | 6,075.00    | 6,900             |
| French.....                                                             | 1               | 4,368                     | 4,369             | 5,248             | 3,329           | 5,242.80    | 5,446             |
| Totals.....                                                             | 3               | 14,992                    | 18,032            | 22,308            | 13,937          | 18,522.80   | 21,692            |
| <i>From West Indies to Far East:</i>                                    |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 3               | 10,555                    | 11,966            | 13,958            | 8,957           | 13,023.45   | 19,159            |
| <i>From east coast of Mexico to west coast of South America:</i>        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 4,645                     | 5,311             | 7,270             | 4,513           | 5,806.25    | 9,600             |
| United States.....                                                      | 1               | 4,158                     | 4,765             | 6,666             | 4,157           | 5,197.50    | 9,500             |
| Totals.....                                                             | 2               | 8,803                     | 10,076            | 13,936            | 8,670           | 11,003.75   | 19,100            |
| <i>From east coast of United States to west coast of Canada:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 2               | 6,219                     | 7,660             | 9,580             | 6,272           | 7,662.30    | 12,200            |

## ATLANTIC TO PACIFIC.—Continued.

| Route and registry.                                           | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.     | Tons of cargo.    |
|---------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------|-------------------|
|                                                               |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |            |                   |
| <i>From West Indies to west coast of Canada:</i>              |                 |                           |                   |                   |                 |            | <i>Long tons.</i> |
| Norwegian.....                                                | 1               | 2,444                     | 3,042             | 3,856             | 2,418           | \$3,055.00 | 4,806             |
| United States.....                                            | 1               | 3,480                     | 4,956             | 5,597             | 3,485           | 4,350.00   | 6,761             |
| Totals.....                                                   | 2               | 5,924                     | 7,998             | 9,453             | 5,903           | 7,405.00   | 11,567            |
| <i>From Europe to Far East:</i>                               |                 |                           |                   |                   |                 |            |                   |
| British.....                                                  | 1               | 785                       | 891               | 1,322             | 796             | 981.25     | 20                |
| Norwegian.....                                                | 1               | 2,567                     | 3,269             | 3,785             | 2,307           | 3,208.75   | 4,833             |
| Totals.....                                                   | 2               | 3,352                     | 4,160             | 5,107             | 3,103           | 4,190.00   | 4,853             |
| <i>From Cristobal, C. Z., to west coast of United States:</i> |                 |                           |                   |                   |                 |            |                   |
| United States.....                                            | 2               | 2,986                     | 3,756             | 4,796             | 2,963           | 3,732.50   | 2,021             |
| <i>From east coast of Mexico to Far East:</i>                 |                 |                           |                   |                   |                 |            |                   |
| Norwegian.....                                                | 1               | 4,407                     | 5,051             | 7,022             | 4,438           | 5,508.75   | 8,682             |
| <i>From east coast of United States to Balboa, C. Z.:</i>     |                 |                           |                   |                   |                 |            |                   |
| United States.....                                            | 1               | 4,464                     | 5,327             | 7,073             | 4,360           | 5,580.00   | 8,000             |
| <i>From east coast of United States to Gatun Lake, C. Z.:</i> |                 |                           |                   |                   |                 |            |                   |
| United States.....                                            | 1               | 3,618                     | 3,686             | 4,075             | 3,760           | 2,713.50   | .....             |
| <i>Foreign vessels between United States coastwise ports:</i> |                 |                           |                   |                   |                 |            |                   |
| Norwegian.....                                                | 1               | 2,338                     | 2,924             | 3,586             | 2,345           | 2,922.50   | .....             |
| <i>From Mexican coastwise ports:</i>                          |                 |                           |                   |                   |                 |            |                   |
| French.....                                                   | 1               | 2,155                     | 2,096             | 2,953             | 1,880           | 2,515.20   | 3,800             |
| <i>From Europe to west coast of Central America:</i>          |                 |                           |                   |                   |                 |            |                   |
| German.....                                                   | 1               | 1,118                     | 1,361             | 2,064             | 1,182           | 1,397.50   | 336               |
| <i>Colombian coastwise ports:</i>                             |                 |                           |                   |                   |                 |            |                   |
| British.....                                                  | 1               | 614                       | 622               | 1,138             | 602             | 746.40     | 279               |
| Totals, March, 1922....                                       | 138             | 472,020                   | 586,041           | 724,316           | 461,154         | 580,374.55 | 581,952           |
| Totals, February, 1922....                                    | 114             | 394,817                   | 488,005           | 605,323           | 384,957         | 482,933.41 | 442,825           |
| Totals, March, 1921....                                       | 140             | 514,468                   | 613,591           | 784,748           | 506,842         | 635,165.10 | 636,579           |

## PACIFIC TO ATLANTIC.

|                                                                         |    |         |         |         |         |              |                   |
|-------------------------------------------------------------------------|----|---------|---------|---------|---------|--------------|-------------------|
| <i>United States coastwise:</i>                                         |    |         |         |         |         |              | <i>Long tons.</i> |
| United States.....                                                      | 25 | 102,916 | 128,988 | 161,335 | 103,509 | \$124,465.78 | 123,657           |
| <i>From west coast of South America to east coast of United States:</i> |    |         |         |         |         |              |                   |
| United States.....                                                      | 5  | 12,548  | 15,014  | 19,394  | 12,254  | 15,685.00    | 16,773            |
| British.....                                                            | 3  | 7,414   | 9,512   | 13,224  | 7,927   | 9,267.50     | 8,150             |
| Norwegian.....                                                          | 2  | 1,745   | 2,456   | 2,868   | 1,765   | 2,181.25     | 1,525             |
| Swedish.....                                                            | 1  | 1,338   | 1,431   | 2,242   | 1,595   | 1,672.50     | 2,650             |
| Totals.....                                                             | 11 | 23,045  | 28,413  | 37,728  | 23,541  | 28,806.25    | 29,098            |
| <i>From west coast of South America to Europe:</i>                      |    |         |         |         |         |              |                   |
| British.....                                                            | 5  | 14,227  | 17,975  | 24,911  | 14,440  | 17,783.75    | 18,918            |
| Dutch.....                                                              | 3  | 6,576   | 10,099  | 10,340  | 6,601   | 8,220.00     | 10,229            |
| Danish.....                                                             | 1  | 4,223   | 5,338   | 6,650   | 4,247   | 5,278.75     | 7,511             |
| French.....                                                             | 1  | 4,288   | 4,400   | 5,564   | 3,524   | 5,290.80     | 4,749             |
| German.....                                                             | 1  | 2,057   | 3,486   | 4,750   | 2,969   | 3,696.25     | 4,591             |
| Totals.....                                                             | 11 | 32,271  | 41,307  | 52,215  | 31,781  | 40,269.55    | 45,998            |
| <i>From west coast of South America to Cristobal, C. Z.:</i>            |    |         |         |         |         |              |                   |
| British.....                                                            | 3  | 1,262   | 1,648   | 2,280   | 1,365   | 1,577.50     | 492               |
| Chilean.....                                                            | 2  | 3,072   | 5,224   | 6,543   | 3,921   | 3,840.00     | 257               |
| Peruvian.....                                                           | 2  | 2,719   | 5,345   | 9,020   | 4,517   | 3,398.75     | 2,909             |
| United States.....                                                      | 1  | 334     | 335     | 615     | 373     | 402.00       | 65                |
| Totals.....                                                             | 8  | 7,387   | 12,552  | 18,458  | 10,176  | 9,218.25     | 3,813             |
| <i>From Australasia to Europe:</i>                                      |    |         |         |         |         |              |                   |
| British.....                                                            | 8  | 36,998  | 44,483  | 58,263  | 37,243  | 46,247.50    | 45,210            |
| <i>From west coast of United States to Europe:</i>                      |    |         |         |         |         |              |                   |
| United States.....                                                      | 4  | 15,696  | 19,624  | 25,256  | 15,644  | 19,620.00    | 33,828            |
| British.....                                                            | 2  | 6,749   | 8,782   | 10,731  | 6,803   | 8,425.00     | 13,981            |
| Danish.....                                                             | 1  | 4,665   | 4,665   | 4,714   | 3,004   | 5,831.25     | 6,459             |
| Totals.....                                                             | 7  | 27,101  | 33,071  | 40,701  | 25,451  | 33,876.25    | 54,268            |

## PACIFIC TO ATLANTIC.—Continued.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.      | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |                   |
| <i>From west coast of Canada to east coast of United States:</i>        |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| United States.....                                                      | 3               | 12,591                    | 16,235            | 19,484            | 12,692          | \$15,738.75 | 17,182            |
| British.....                                                            | 1               | 4,200                     | 4,623             | 6,656             | 2,130           | 5,250.00    | 4,800             |
| Totals.....                                                             | 4               | 16,791                    | 20,858            | 26,140            | 14,822          | 20,988.75   | 21,982            |
| <i>From west coast of Canada* to Europe:</i>                            |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 2               | 10,230                    | 11,656            | 14,566            | 10,212          | 12,787.50   | 19,304            |
| French.....                                                             | 1               | 3,638                     | 4,170             | 5,796             | 3,689           | 4,547.00    | 5,252             |
| Totals.....                                                             | 3               | 13,868                    | 15,826            | 20,362            | 13,901          | 17,335.00   | 24,556            |
| <i>From Far East to east coast of United States:</i>                    |                 |                           |                   |                   |                 |             |                   |
| Japanese.....                                                           | 2               | 7,912                     | 10,250            | 12,808            | 7,874           | 9,890.00    | 14,120            |
| United States.....                                                      | 1               | 3,816                     | 4,758             | 6,517             | 4,046           | 4,770.00    | 4,793             |
| Totals.....                                                             | 3               | 11,728                    | 15,008            | 19,325            | 11,920          | 14,660.00   | 18,913            |
| <i>From west coast of Central America to Cristobal, C. Z.:</i>          |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 3               | 2,145                     | 2,416             | 3,746             | 2,194           | 2,681.25    | 3,543             |
| <i>From west coast of South America to east coast of Mexico:</i>        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 8,565                     | 9,694             | 13,506            | 8,464           | 6,979.68    | .....             |
| Norwegian.....                                                          | 2               | 8,825                     | 10,094            | 14,009            | 8,860           | 7,267.68    | .....             |
| Totals.....                                                             | 4               | 17,390                    | 19,788            | 27,515            | 17,324          | 14,247.36   | .....             |
| <i>From west coast of United States to east coast of Mexico:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 2               | 8,486                     | 9,854             | 13,724            | 8,484           | 7,094.88    | .....             |
| <i>From Colombian coastwise ports:</i>                                  |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 1,228                     | 1,244             | 2,276             | 1,204           | 1,492.80    | 186               |
| <i>From west coast of United States to Cristobal, C. Z.:</i>            |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 2               | 2,986                     | 3,756             | 4,796             | 2,963           | 3,732.50    | 3,967             |
| <i>From Balboa, C. Z., to east coast of Mexico:</i>                     |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 4,464                     | 5,327             | 7,073             | 4,360           | 3,835.44    | .....             |
| <i>From Australasia to east coast of Canada:</i>                        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 3,245                     | 4,092             | 5,399             | 3,333           | 4,056.25    | 2,388             |
| <i>Miscellaneous (Huacho, Peru, to Iquitos, Peru, on Amazon River):</i> |                 |                           |                   |                   |                 |             |                   |
| Peruvian.....                                                           | 1               | 2,690                     | 2,787             | 3,599             | 2,674           | 3,344.40    | 558               |
| Totals, March, 1922....                                                 | 96              | 314,739                   | 389,770           | 502,655           | 314,880         | 376,352.21  | 378,137           |
| Totals, February, 1922..                                                | 98              | 315,731                   | 398,530           | 499,714           | 315,169         | 383,332.77  | 359,249           |
| Totals, March, 1921....                                                 | 115             | 409,841                   | 499,227           | 632,672           | 410,599         | 470,371.45  | 447,984           |

## Price of Coal at San Francisco.

Advice has been received from the King Coal Company, San Francisco, Cal., that it is quoting a price on bunker coal at San Francisco of \$12 per ton, trimmed in bunkers.

## Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending April 8, 1922.

| Name of vessel.    | Line or charterer.                | Arrived.     | Departed.    | Cargo—       |              |
|--------------------|-----------------------------------|--------------|--------------|--------------|--------------|
|                    |                                   |              |              | Discharged   | Laded.       |
|                    |                                   |              |              | <i>Tons.</i> | <i>Tons.</i> |
| Laura C. Hall..... | Pacific Metals Transportation Co. | April 2..... | April 2..... | 5            | .....        |
| Acajutla.....      | Pacific Steam Navigation Co.      | April 2..... | April 2..... | 3            | .....        |
| Venezuela.....     | Pacific Mail Steamship Co.        | April 2..... | April 3..... | 213          | .....        |
| Manavi.....        | Pacific Steam Navigation Co.      | April 4..... | April 4..... | .....        | 21           |
| Laura C. Hall..... | Pacific Metals Transportation Co. | April 4..... | April 6..... | .....        | 43           |
| Derblay.....       | United States Shipping Board      | April 4..... | April 6..... | 32           | 104          |
| Somme.....         | United States Army                | April 7..... | April 8..... | 37           | .....        |
| Colombia.....      | Pacific Mail Steamship Co.        | April 8..... | .....        | 10           | 3            |

\* Transport.



### Sailing of the "Garfield."

The steamer *Garfield*, salvaged from Galera de Zamba Bay, and dry-docked at Cristobal on March 26 without the discharge of her cargo, cleared from Cristobal for Puerto Colombia on April 6.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending April 8, 1922.

| Name of vessel.    | Line or charterer.                | Arrived. | Departed. | Cargo—     |        |
|--------------------|-----------------------------------|----------|-----------|------------|--------|
|                    |                                   |          |           | Discharged | Laded. |
|                    |                                   |          |           | Tons.      | Tons.  |
| Abangarez.....     | United Fruit Co.                  | April 2  | April 3   | 236        | 268½   |
| Orijnsen.....      | Royal Netherlands W. I. Mail.     | April 2  | April 4   | 70         | (?)    |
| Acajutla.....      | Pacific Steam Navigation Co.      | April 2  | April 2   | 1,009      |        |
| Laura C. Hall..... | Pacific Metals Transportation Co. | April 2  | April 4   | 66         | 55     |
| Venezuela.....     | Pacific Mail Steamship Co.        | April 3  | April 4   | 1,350      | 124    |
| Manavi.....        | Pacific Steam Navigation Co.      |          | April 4   |            | 152    |
| Sonora.....        | French Line                       |          | April 4   |            | 368    |
| Advance.....       | Panama Railroad Steamship Line.   |          | April 5   |            | 359    |
| Parismina.....     | United Fruit Co.                  | April 4  | April 6   | 730        | 161    |
| Tivives.....       | United Fruit Co.                  | April 5  | April 6   | 20         | 1½     |
| Metapan.....       | United Fruit Co.                  | April 5  | April 6   | 332        | 164    |
| Ucayali.....       | Peruvian Line.                    | April 5  |           | 1,767      |        |
| Amassia.....       | Hamburg-American Line.            | April 5  | April 6   | 78         | (?)    |
| Panama.....        | East Asiatic Steamship Line.      | April 5  | April 6   | 434        | (?)    |
| Salvador.....      | Pacific Steam Navigation Co.      | April 5  |           | 881        |        |
| Savoia.....        | Italian Line.                     |          | April 6   |            | 4,039  |
| Panama.....        | Panama Railroad Steamship Line.   |          | April 7   |            | 2,378  |
| Colombia.....      | Pacific Mail Steamship Co.        | April 6  | April 8   | 397        | 189    |
| Norman Bridge..... | Pan-American Pet. and Transp. Co. | April 7  |           | 6,000      |        |
| Calamares.....     | United Fruit Co.                  | April 7  | April 8   | 238        | 195    |
| San Benito.....    | United Fruit Co.                  | April 8  | April 8   | 36         | 172    |

¹ Pounds.

² No cargo laded.

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the two weeks ended April 11:

Steamship *Arizonan*, dock and undock; remove starboard propeller and section of tail shaft; draw tail shaft inboard for examination; rewood 16 inches of stern tubing; reinstall tail shaft and intermediate section; repack stern gland; remove 2 bad order propeller plates and assemble 2 new spares on hub; install propeller; repair steering gear; raise rudder for examination of pintles and bushings; furnish crane service to handle weights for trimming ship; V. de G. C. *Almirante Latorre*, dock and undock; spot scale and clean bottom; paint bottom; tighten up rivets; install liner under paravane bracket; steamships *West Isleta*, remove broken studs and renew; *Eastern Queen*, renew bottom section of operating rod, main engine stop valve; renew front guide brass L. P. valve stem; weld cylinder head of L. P. balance piston; dock and undock, remove spare tail shaft from ship; patch up with intermediate shaft; manufacture coupling bolts; draw stern tube bushing, rewood, re-install, and install spare tail shaft; pack glands and install propeller; *Iowan*, furnish air to assist firemen fighting fire; *Santa Paula*, dock and undock; stage and clean; paint bottom 1 coat anticorrosive and 1 coat of antifouling, paint to be furnished by ship; *Derblay*, repair steering gear supports and install new bracket; launch *Petroleo*, miscellaneous engine repairs; renew sternpost; patch and renew copper; renew planks on bow as necessary; tug *Favorite*, conversion from coal to oil burner.

### Deceased Employee.

The estate of the following deceased employee of The Panama Canal or the Panama Railroad Company is now in process of settlement, and any claims against this estate, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due him, should be presented at the office of the Administrator of Estates at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. This name will be published but once.

| Name.                 | Check No. | Native of—    | Isthmian residence. | Employed by—       | Date of death. |
|-----------------------|-----------|---------------|---------------------|--------------------|----------------|
| Charles Weathers..... | 38781     | Barbados..... | Colon.....          | Quartermaster..... | April 3, 1922. |

## Official Circulars.

### Acting Superintendent, Mechanical Division.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., April 8, 1922.

To all concerned—Effective April 10, 1922, and during the absence of Commander Roy W. Ryden, U. S. N., on leave, Mr. Herbert H. Evans will act as Superintendent of the Mechanical Division.

JAY J. MORROW,  
Governor.

### Morning Passenger Train from Panama Not to Stop at Miraflores Locks.

PANAMA RAILROAD COMPANY,  
OFFICE OF MASTER OF TRANSPORTATION,  
BALBOA HEIGHTS, C. Z., April 12, 1922.

CIRCULAR No. 139:

To all concerned—Please refer to my circular No. 101, dated January 3, 1922, reading as follows:

"Effective at once, and until further orders, train No. 2 will make stop at Miraflores Locks daily, except Sundays and holidays, to let off employees."

Effective Monday, April 17, train No. 2 will not stop at Miraflores Locks to let off passengers.

W. F. FOSTER,  
Master of Transportation.

### Lumber Prices.

THE PANAMA CANAL,  
SUPPLY DEPARTMENT,  
BALBOA HEIGHTS, C. Z., March 31, 1922.

HEADS OF DEPARTMENTS AND DIVISIONS:

Effective April 1, 1922, the following prices will be allowed by the Supply Department for second-hand lumber, scrap lumber, and serviceable lumber, and lumber which may be included in material classified as scrap for which requests for the purchase of small quantities are received from time to time:

| Kind of lumber.                                                                                                                      | Credit to be allowed departments and divisions. | Issue and sales prices.       |                                           |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------|-------------------------------------------|
|                                                                                                                                      |                                                 | To departments and divisions. | To employees, individuals, and companies. |
| Flooring, second-hand.....                                                                                                           | \$20.00                                         | \$25.00                       | \$30.00                                   |
| Ceiling, second-hand.....                                                                                                            | 20.00                                           | 25.00                         | 30.00                                     |
| Siding, second-hand.....                                                                                                             | 20.00                                           | 25.00                         | 30.00                                     |
| Lumber, dimension sizes, second-hand.....                                                                                            | 15.00                                           | 20.00                         | 25.00                                     |
| Miscellaneous yellow pine and fir, serviceable lumber included in material classified as scrap lumber.....                           | 15.00                                           | 20.00                         | 20.00                                     |
| Miscellaneous fancy and hardwood lumber, including all classes of native lumber included in material classified as scrap lumber..... | ( <sup>1</sup> )                                | ( <sup>2</sup> )              | ( <sup>3</sup> )                          |
| Miscellaneous scrap lumber.....                                                                                                      | 7.00                                            | 8.00                          | .....                                     |

<sup>1</sup> Fifty per cent of stock card prices of the same kind of new lumber less \$5 per thousand.

<sup>2</sup> Fifty per cent of stock card price of same kind of new lumber.

<sup>3</sup> Carload.

The unit prices above specified, except under the items of scrap lumber, are prices per thousand feet, board measure.

No second-hand lumber will be sold to employees or outsiders at the present time, as all such material is required for issue to settlers on Canal Zone lands.

R. K. MORRIS,  
Chief Quartermaster.

### Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa.

For coal in large quantities as specified below, taken from alongside coaling plants:

(a) To vessels taking 1,200 tons or over;

(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tarif No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

### Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

### Sale of Tugboat "Empire."

Sealed bids in triplicate will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., and also at the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, Canal Zone, not later than 10.30 a. m. on the 17th day of April, 1922, at which time they will be opened in public simultaneously in both offices, for the purchase of the seagoing tugboat *Empire*, 120 feet over-all length, located at Balboa, Canal Zone. Detailed information with photographs, if desired, and form of proposal (Circular No. 1471) may be had upon application to the offices of the General Purchasing Officer or the Chief Quartermaster. The Panama Canal reserves the right to reject any or all bids in its discretion.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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at Cristobal, C. Z., under the Act of March 3, 1879.

*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., April 19, 1922.

No. 36.

## Canal Tug Assisting Two Ships in Distress.

The Panama Canal tug *Gorgona* is due to arrive at Balboa in the night of April 19–20, towing the tanker *W. J. Hanna*, which she was sent out to bring in from off the coast of Peru.

On the way back the *Gorgona* received a call for assistance from the American steamer *Derblay*, aground in Manta Bay, Ecuador. Leaving the *Hanna* at anchor temporarily, the tug endeavored to pull the *Derblay* free but was unable to do so and continued to port with the *Hanna*. Further orders with reference to the rescue of the *Derblay* have not been received.

## The Panama Canal Salvage Section.

The representative of the United Salvage Association, underwriters in New York, who came to the Isthmus in connection with the salvaging of the steamship *Garfield* in Colombian waters, expressed himself, in conversation with the Marine Superintendent of The Panama Canal, as "amazed at the wrecking equipment and wrecking ability of The Panama Canal salvage section." He stated his belief that the work of the section was equal to that of the foremost wrecking company in the United States.

The salvage equipment of the Canal consists primarily of the wrecking tug *Favorite*, supplemented by tugs, barges, floating cranes, etc., as may be needed, and a full supply of ground tackle, wire and chain cable, diving equipment, and the other requisite material and personnel for wrecking operations.

The *Favorite* is 195 feet in length over all, 180 feet between perpendiculars, with a beam of 43 feet and molded depth of 20 feet 6 inches. Her gross tonnage is 1,223 tons, and she has cargo space for about 800 tons, in addition to which she can carry about 500 tons of water. On account of her carrying a great amount of water ballast she can lighten ship when necessary to operate in shoaler waters than her ordinary draft would allow. This feature was of great value in the work on the *Garfield*. The *Favorite* is now being converted from a coal-burner to an oil-burner; with oil fuel she will be able to stay away from port for as long as 30 days without the need of refueling.

The *Favorite* is equipped with a 25-ton boom forward and a 5-ton boom aft, and fitted with a machine shop containing an air compressor, power saw, cutter, shaper, punching machine, and other handy tools. She carries a 200-kilowatt generator.

The pumps are an important factor and have been increased since the *Favorite* was placed in the Canal service, to which she was transferred from wrecking service for the Navy, which used her on the coast of France during the World War. Prior to that she was operated

(Continued on page 458.)



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 15, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.            | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                             | Length. | Beam. | Salt water draft. | From—        | For—          | Cargo.            |        | Panama Canal tonnage. |       |
|------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-----------------------------------|---------|-------|-------------------|--------------|---------------|-------------------|--------|-----------------------|-------|
|                  | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                   |         |       |                   |              |               | Nature.           | Tons.  | Gross.                | Net.  |
| Toba Maru...     | 8                | 18.45 |                |       | 9                  | 15.10 | 9                | 16.21 | Japanese.    | Nippon Yusen Kaisha               | 445.0   | 58.0  | 25.4              | New York     | Japan         | General oil, etc. | 8,790  | 8,058                 | 5,743 |
| San Joaquin...   | 9                | 5.48  |                |       | 9                  | 15.10 | 9                | 17.40 | Norwegian.   | W. Wilhelmsen                     | 495.4   | 57.1  | 26.0              | Tampico      | Coapilla      | Crude oil         | 9,200  | 7,087                 | 5,043 |
| Patrick Henry... | 9                | 5.37  |                |       | 9                  | 16.06 | 10               | 12.48 | American.    | Tampa Interocean S. S. Co. (S.B.) | 439.6   | 60.2  | 20.0              | Gabreton     | Shanghai      | General           | 9,804  | 8,039                 | 6,534 |
| Acapulco...      | 2                | 18.25 | 9              | 9.10  | 9                  | 17.07 | 9                | 20.30 | British.     | Pacific Steam Navigation Co.      | 215.7   | 23.7  | 13.8              | Cristobal    | Chaparrico    | General           | 246    | 1,273                 | 706   |
| Ohono...         | 9                | 10.35 | 9              | 10.40 | 9                  | 18.55 | 9                | 18.55 | American.    | American-Hawaiian Line            | 407.0   | 53.7  | 23.5              | New York     | Los Angeles   | General           | 5,017  | 7,112                 | 4,896 |
| Tekoa...         | 10               | 18.34 | 11             | 6.25  | 11                 | 13.47 | 11               | 15.00 | British.     | New Zealand Shipping Co.          | 489.6   | 62.8  | 27.0              | Liverpool    | Auckland      | General           | 3,248  | 10,259                | 7,092 |
| Dinteldijk...    | 10               | 20.08 | 11             | 7.25  | 11                 | 16.57 | 11               | 18.00 | Dutch.       | Holland-American Line             | 388.6   | 62.0  | 26.6              | Amsterdam    | Tacoma        | General           | 10,165 | 10,786                | 7,551 |
| Pear Branch...   | 10               | 17.47 | 11             | 8.42  | 11                 | 17.06 | 11               | 18.05 | British.     | E. & W. Ritson                    | 251.0   | 43.0  | 22.0              | Baltimore    | Valparaiso    | General           | 4,298  | 5,709                 | 3,868 |
| North American   | 9                | 13.25 | 11             | 8.45  | 11                 | 17.46 | 11               | 18.44 | Norwegian.   | North American Steamship Co.      | 232.0   | 35.0  | 11.1              | New York     | Callao        | Coke, general     | 2,700  | 2,444                 | 1,571 |
| Varg...          | 9                | 13.25 | 11             | 8.45  | 11                 | 17.46 | 11               | 18.44 | Norwegian.   | P. Johannessen                    | 232.0   | 35.0  | 11.1              | New York     | Guayaquil     | General           | 10,400 | 7,507                 | 5,089 |
| Liebre...        | 11               | 13.30 | 11             | 11.30 | 11                 | 19.07 | 11               | 20.45 | American.    | General Petroleum Co.             | 435.0   | 56.2  | 30.0              | Puerto Lobos | Valparaiso    | Fuel oil          | 6,300  | 3,174                 | 2,161 |
| Charlton Hall... | 11               | 7.42  | 11             | 12.00 | 11                 | 20.07 | 11               | 21.30 | American.    | United States Steel Products Co.  | 499.0   | 50.0  | 26.0              | New York     | Talcahuano    | General           | 7,092  | 8,429                 | 6,100 |
| Frako...         | 11               | 14.38 | 12             | 6.15  | 12                 | 14.00 | 12               | 15.00 | British.     | New Zealand Shipping Co.          | 450.0   | 58.0  | 27.6              | St. John's   | Auckland      | General steel     | 7,167  | 6,253                 | 4,586 |
| Tolken...        | 12               | 9.40  | 13             | 6.18  | 13                 | 14.01 | 13               | 15.50 | Swedish.     | Transatlantic Steamship Co.       | 378.0   | 54.0  | 24.6              | Barry        | Honolulu      | Coal              | 6,889  | 5,465                 | 3,902 |
| Onimco...        | 12               | 13.25 | 13             | 7.26  | 13                 | 14.59 | 13               | 16.20 | American.    | Onimco Steamship Co.              | 376.0   | 52.0  | 24.3              | Baltimore    | San Francisco | Steel             | 4,022  | 9,211                 | 6,721 |
| Hauraki...       | 12               | 6.25  | 13             | 8.07  | 13                 | 16.07 | 13               | 17.30 | British.     | Union Steamship Co. of N. Z.      | 450.3   | 58.0  | 23.9              | Glasgow      | Seattle       | General steel     | 6,000  | 8,243                 | 6,312 |
| Tiger...         | 13               | 2.58  | 13             | 8.58  | 13                 | 17.26 | 13               | 18.40 | American.    | Standard Transportation Co.       | 410.0   | 56.0  | 23.0              | Baltimore    | Seattle       | General steel     | 8,200  | 11,487                | 8,732 |
| Lewis Luckenbach | 13               | 7.39  | 13             | 9.40  | 13                 | 18.21 | 13               | 19.35 | American.    | Luckenbach Line                   | 496.0   | 63.2  | 24.0              | Philadelphia | Vancouver     | General           | 6,355  | 4,406                 | 2,405 |
| Ucayali...       | 15               | 15.45 | 13             | 11.11 | 13                 | 19.12 | 13               | 23.00 | Peruvian.    | Peruvian Line                     | 374.0   | 46.0  | 18.6              | Cristobal    | Callao        | General           | 7,007  | 5,907                 | 4,304 |
| Malta Maru...    | 13               | 3.22  | 13             | 11.50 | 13                 | 20.06 | 13               | 21.22 | Japanese.    | Kokusan Kisen Kaisha              | 490.0   | 53.0  | 26.6              | New York     | Yokohama      | General           | 8,105  | 7,285                 | 5,256 |
| Steel Age...     | 13               | 5.16  | 13             | 13.05 | 13                 | 20.49 | 13               | 21.58 | American.    | United States Steel Products Co.  | 335.5   | 55.0  | 27.1              | New York     | Vancouver     | Steel, general    | 5,265  | 6,755                 | 4,688 |
| Argosy...        | 14               | 1.26  | 14             | 6.50  | 14                 | 13.48 | 14               | 19.18 | American.    | Wessex Dredge & Co. (S.B.)        | 390.0   | 54.2  | 24.8              | New York     | Talcahuano    | General, coal     | 3,900  | 6,755                 | 4,688 |
| Henry S. Grove   | 14               | 7.38  | 14             | 8.45  | 14                 | 15.03 | 14               | 16.43 | American.    | Atlantic Gulf & Pacific S. S. Co. | 404.6   | 53.0  | 19.0              | Baltimore    | San Francisco | General           | 9,500  | 7,496                 | 5,311 |
| Lompoc...        | 14               | 12.10 | 14             | 12.25 | 15                 | 15.42 | 15               | 16.45 | British.     | C. T. Bowring & Co.               | 435.3   | 55.9  | 26.0              | Tampico      | Balboa        | Fuel oil          | 9,629  | 9,458                 | 6,867 |
| Tredenham...     | 14               | 19.49 | 15             | 6.45  | 15                 | 19.45 | 15               | 16.45 | British.     | Hain Steamship Co.                | 479.0   | 62.0  | 27.0              | New Orleans  | Auckland      | General           | 9,629  | 9,458                 | 6,867 |
| Salvador...      | 15               | 15.40 | 15             | 9.24  | 15                 | 16.19 | 15               | 17.32 | British.     | Pacific Steam Navigation Co.      | 394.0   | 53.0  | 15.1              | Cristobal    | Chaparrico    | General           | 928    | 1,213                 | 692   |
| Flonia...        | 15               | 1.37  | 15             | 12.21 | 15                 | 18.53 | 16               | 12.37 | Danish.      | East Asiatic Steamship Co.        | 215.4   | 33.2  | 15.1              | Copenhagen   | San Francisco | General           | 4,776  | 5,744                 | 4,016 |
| Barge No. 3...   |                  |       |                |       | 15                 |       |                  |       | American.    | C. A. Blair                       | 394.4   | 53.2  | 23.0              | Cristobal    | Gatun Lake    | Ballast           |        |                       |       |

\* Motor ship.



THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|   |    |    |   |    |    |    |    |    |         |                              |     |   |    |    |    |    |              |              |       |       |       |
|---|----|----|---|----|----|----|----|----|---------|------------------------------|-----|---|----|----|----|----|--------------|--------------|-------|-------|-------|
| 8 | 13 | 35 | 9 | 6  | 42 | 10 | 6  | 09 | Swedish | Johnson Line                 | 427 | 0 | 56 | 2  | 28 | 2  | Stockholm    | General      | 9,018 | 7,480 | 5,532 |
| 8 | 13 | 40 | 9 | 7  | 49 | 9  | 15 | 31 | British | New Zealand Shipping Co.     | 457 | 3 | 59 | 0  | 24 | 0  | Auckland     | Cold storage | 4,664 | 9,055 | 8,822 |
| 8 | 13 | 45 | 9 | 7  | 49 | 9  | 15 | 31 | British | Bhe Star Line                | 420 | 6 | 54 | 25 | 0  | 0  | Portland     | General      | 5,161 | 7,521 | 5,852 |
| 8 | 13 | 50 | 9 | 7  | 43 | 9  | 16 | 50 | 10      | Wandies Steamship Co.        | 370 | 0 | 53 | 1  | 23 | 0  | Grays Harbor | Lumber       | 6,400 | 3,527 | 4,099 |
| 9 | 2  | 00 | 9 | 7  | 43 | 9  | 16 | 50 | 10      | F. & W. Rison                | 390 | 5 | 51 | 0  | 22 | 0  | Plymouth     | General      | 5,347 | 4,912 | 3,642 |
| 9 | 2  | 05 | 9 | 11 | 15 | 9  | 18 | 25 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Punta Arenas | General      | 5,508 | 5,660 | 4,178 |
| 9 | 2  | 10 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 15 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 20 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 25 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 30 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 35 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 40 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 45 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 50 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 55 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 60 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 65 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 70 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 75 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 80 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 85 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 90 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 2  | 95 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 00 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 05 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 10 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 15 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 20 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 25 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 30 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 35 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 40 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 45 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 50 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 55 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 60 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 65 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 70 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 75 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 80 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 85 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 90 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 3  | 95 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 00 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 05 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 10 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 15 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 20 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 25 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 30 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 35 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 40 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 45 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 50 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 55 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 60 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 65 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 70 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 75 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 80 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 85 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 90 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 4  | 95 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 00 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 05 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 10 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 15 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 20 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 25 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 30 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 35 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 40 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 45 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 50 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 55 | 9 | 12 | 28 | 9  | 19 | 50 | 10      | United States Shipping Board | 380 | 3 | 58 | 1  | 23 | 10 | Portland     | General      | 3,462 | 6,310 | 4,596 |
| 9 | 5  | 60 | 9 | 12 | 28 | 9  | 19 | 50 | 10      |                              |     |   |    |    |    |    |              |              |       |       |       |

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |             |                                 | *DEPARTURES. |             |                           |
|------------|-------------|---------------------------------|--------------|-------------|---------------------------|
| Date.      | Vessel.     | From—                           | Date.        | Vessel.     | For—                      |
| April 9.   | Zacapa.     | United Fruit Co.                | April 10.    | Zacapa.     | Bocas del Toro.           |
| April 9.   | Martinique. | French Line.                    | April 11.    | Nubia.      | Nuevas.                   |
| April 9.   | Nubian.     | Leyland Line.                   | April 11.    | Solana.     | Tampico.                  |
| April 9.   | Solana.     | Pacific Mail Steamship Co.      | April 12.    | Pastores.   | New Orleans via wayports. |
| April 10.  | Cartago.    | United Fruit Co.                | April 13.    | Cartago.    | New Orleans via wayports. |
| April 11.  | Pastores.   | United Fruit Co.                | April 13.    | San Blas.   | New Orleans.              |
| April 11.  | Advance.    | Panama Railroad Steamship Line. | April 13.    | Zacapa.     | St. Nazaire and wayports. |
| April 11.  |             |                                 | April 13.    | Martinique. | St. Nazaire and wayports. |

(Continued on page 462, column 2.)

### The Panama Canal Salvage Section.—Continued from page 455.

on the Great Lakes by the Great Lakes Towing Company, of Duluth. The pumps on the *Favorite* now include 4 portable 12-inch centrifugal gasoline-driven wrecking pumps and four 4-inch submersible electric salvage pumps, of a total capacity of 2,440 tons of discharge an hour. In addition, there are a number of portable steam-driven pumps which can be placed in service to augment this capacity.

#### CONDITIONS OF WRECKING OPERATIONS.

The Panama Canal will undertake salvage operations under three forms of contract:

(a) Hire *Favorite* and wrecking crew at \$1,500 per day, with extra charge for all equipment used except standing equipment on *Favorite*.

(b) Fixed price for job with graduated reimbursement in case of failure or partial success.

(c) No cure, no pay. Fixed price dependent on value of ship and cargo and difficulties involved, with graduated payment in case of partial success.

Of the three types of contract The Panama Canal would recommend to owners and underwriters the use of the first type for the following reasons:

It obviates any delay, since all that is necessary is to cable or radio The Panama Canal to go get the ship, when the *Favorite* will be placed on the daily salvage rate and despatched immediately. Very frequently promptness in this saves much time and consequent expense in the completion of the job. In the case of the *Garfield* it is probable that two-thirds of the time would have been saved. This plan will also in almost every case save from 50 to 100 per cent in cost to the owners and underwriters.

This is true because The Panama Canal maintains salvage equipment for the service of shipping and as part of the Canal's duty to shipping, particularly since this part of the world does not offer sufficient inducement to salvage companies to maintain adequate equipment in these waters.

Therefore the service is more or less noncommercial, since it is to the best interest of the Canal to expedite shipping in every manner possible, and the efforts of the wrecking crews are to make a record of quick work for the Canal rather than to draw the work out in order to make the money return greater. This attitude of the wrecking crew is clearly shown in the *Garfield* case.

This contract is, of course, most satisfactory to the Canal as it assures proper return for services rendered.

The other types of contract are standard types and need no explanation.

#### Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the two weeks ended April 17:

Steamships *Acajulla*, repair deck of starboard water closet; renew soft wood deck on port side of saloon deck over butcher shop; make and install new flagstaff for forecastle head; repair Venetian window in captain's room; supply and fit new hinge on entrance door to ice house; re-cement deck in galley; make new bridge pillar for steering engine reducing valve; renew handle of scales in No. 3 hatch; supply and fit 1 angle flooring support in engine room; *Salvador*, furnish and fit dioptric lens in starboard side light; clean and paint captain's room; clean and paint chief officer's room; straighten starboard forward lifeboat davit; overhaul and adjust starboard break windlass; supply and fit 1 log spar 17' long, 12" circumference, at one end and 10" at other end; supply brass locking screw for sounding machine; supply new glass in saloon skylight; repair water tank and shelves in stateroom No. 24; repair hot plate and steam pipes in pantry, also steam valves in hot water tank; repair lead flashing in refrigerator chamber; *West Himrod*, repair bow on starboard side; *Solana*, repair steam gauge; manufacture two 90° 1½" steel wrenches; make 5 bearing scrapers as sketches, of tool steel; schooner *Arabia*, rebush stern bearing; repair main engine exhaust line; clean bottom; repair copper; repair stem and put on new chain plates; calk deck and repair bulwarks, etc.; *Ucayali*, *Manavi*, *Paris-*

*mina*, minor repairs; *Cartago*, repair studs, etc.; *Advance*, overhaul bilge suction manifold; reseal and grind in valves; repair drain pipe; repair-motor boat foundation; *Colon*, repairs to exhaust line of filter box; U. S. S. *O-11*, manufacture 50 blank bolts; U. S. S. *O-13*, manufacture 50 blank bolts; steamships *General O. H. Ernst*, repair winch, etc.; *Jamaica*, repair anchor windlass; *Orita*, braze copper pipe on deck line.

### Coal Prices.

By courtesy of Willard, Sutherland & Company, Inc., of New York, the following prices are quoted from their latest circulars received on the Isthmus:

#### COAL BUNKERING PRICES AT U. S. AND CANADIAN PORTS AS OF MARCH 20, 1922.

New York, \$5.75 Valona coal, \$6.50 Varden coal f. a. s.

Philadelphia, Baltimore, \$5.10 Valona coal, \$5.65 Varden coal f. o. b. piers. Trimming extra. \$5.85 Valona coal, \$6.40 Varden coal, t. i. b., ex lighters.

Newport News, Sewalls Point, Lamberts Point, \$4.75 Navy List Mines f. o. b. under chutes at coal piers.

Portland, Me., \$8.50 t. i. b. ex lighters, Pocahontas or New River.

Boston, \$7.50 t. i. b. ex lighters, Pocahontas and/or New River.

Wilmington, N. C., \$8.90 t. i. b. ex lighters, Pocahontas and/or New River.

Charleston, \$4.85 f. o. b. piers Best Kentucky and/or Virginia.

Savannah, \$6 t. i. b. piers Best Kentucky and/or Virginia.

Jacksonville, \$8 t. i. b. alongside suppliers' wharf, Pocahontas or New River.

Tampa, \$10 t. i. b. alongside suppliers' wharf.

Pensacola, \$5.25 high grade Black Creek, \$4.75 Cahaba, f. o. b. and trimmed, \$4.60 Pratt.

Mobile, \$4.75 washed Black Creek, \$4.50 washed Cahaba or unwashed Black Creek t. i. b. under chutes.

\*New Orleans, \$5.90 Sipsey, \$5.55 Warrior River, \$5.55 Pratt R/M t. i. b. ex lighters.

Galveston, \$8.75 Sipsey washed, \$8.50 Pratt M/R t. i. b. ex lighters alongside Galveston Wharf Co. wharves.

San Diego, \$12.75 Australian bunker coal f. o. b. alongside dock.

Los Angeles Harbor, \$12.75 Utah steam coal f. o. b. alongside dock.

San Francisco, \$10.75 Utah steam coal, \$11.75 Welsh coal f. o. b. ex lighters.

Seattle, \$10 Comox steam coal f. a. s. ex lighters.

Portland, Oreg., \$11 Utah mine run f. o. b. ship's hatch at bunker dock.

Astoria, \$12.50 Comox steam coal f. o. b. ship's hatch.

Tacoma, \$11 f. a. s. ex lighters.

#### CANADIAN PORTS.

Union Bay, Vancouver, \$8.30 Comox steam coal f. o. b. under chutes at coal piers.

Halifax, \$9.25 t. i. b. ex lighters.

North Sydney, N. S., \$6.75 t. i. b.

Sydney-Louisburg, \$6.75 t. i. b.

Pictou, N. S., harbor closed for season.

Montreal-Quebec, harbor closed for season.

Port Hastings, \$7.65 t. i. b.

St. John's, N. F., \$15.25 f. a. s. screened North Sydney coal.

St. John, N. B., \$9.25 t. i. b.

COAL BUNKERING PRICES AT FOREIGN PORTS

AS OF MARCH 7, 1922.

Adelaide, 46/- to 51/- according to point of delivery.

Aden, 55/- Welsh, 50/- South African.

Albany, Australia, 55/6.

Algiers, 38/6 Welsh and/or Durham.

Amsterdam, upon application.

Almeria, upon application.

\*Sipsey, Warrior River, 30 cents less for delivery at coal tippie.

Antwerp, 31/- Welsh, 29/6 North country.

Azores, 50/-.

Bahia, 62/6.

Bahia Blanca, 54/-.

Balboa, \$10 to \$15 according to quantity and method of delivery.

Barbados, 51/-.

Barcelona, upon application.

Batavia, Fl. 32.50 to 37.50 according to quality and point of delivery.

Bermuda, \$10.75.

Bilbao, upon application.

Bombay, Rs. 24.

Bordeaux, current price Welsh Thro'.

Brake, 31/6- Durham unscreened.

Bremen, 31/6- Durham unscreened.

Bremerhaven, 31/6- Durham unscreened.

Brisbane, Australia, 18/2 to 24/4, according to quality and point of delivery.

Brixham, 35/- Denaby coal.

Brunsbüttelkoog, 32/-.

Buenos Aires, 50/-.

Cairns, Australia, 65/6.

Cape Town, 35/- to 39/- according to quality.

Cardiff, 24/6-.

Cartagena, upon application.

Colombo, 40/- to 54/- according to quality.

Colon, \$10 to \$12 according to quantity and method of delivery.

Constantinople, 50/- Admiralty Welsh, 47/-

Welsh, 35/- best Turkish.

Copenhagen, 38/-.

Corcubian, upon application.

Coronel, upon application.

Corunna, upon application.

Curacao, \$11.50.

Dairen, upon application.

Dakar, 43/- from March 10.

Dartmouth-Portland, 34/- Welsh or North

Country coal.

Delagoa Bay, 31/- Transvaal coal.

Dover, 32/6 Durham, Welsh or Chislet

Drontheim, upon application.

Dunkirk, upon application.

Emden, 31/6- Durham unscreened.

Falmouth, upon application.

Fowey, upon application.

Fremantle, 55/6.

Geestmunde, 31/6- Durham unscreened.

Gibraltar, 38/6- plus 1/- export tax.

Glasgow, 22/- to 25/- according to quality.

Gotenhorg, Kr. 40.

Grimsby, 22/- to 25/- best steam.

Hamburg, 28/3 Durham unscreened.

Hayre, current prices Welsh Thro', Nor-

thumberland.

Honolulu, \$12.50 to \$14 Welsh according to

quantity, \$12 to \$13.50 Australian according to

quantity.

Hook of Holland, 32/3 Durham coal.

Huelva, upon application.

Hull, 22/- to 25/- best steam.

Karachi, 24 rupees.

Kingston, 50/-.

La Plata, 50/-.

Las Palmas, 38/-.

Leith, 23/- to 27/-.

Liverpool, 23/- to 30/- according to quality.

London-Gravesend, 34/- Durham, 36/6 Welsh.

Lota, upon application.

Madeira, 40/-.

Malaga, upon application.

Malta, 42/- Welsh.



## Coal Prices.—Continued.

COAL BUNKERING PRICES AT FOREIGN PORTS  
AS OF MARCH 7, 1922.—Continued.

Marseilles, current price Welsh.  
Mauritius, 70/- S. African coal.  
Melbourne, 40/6 to 43/6 according to point of delivery.  
Middlesbro, 23/6 to 25/- according to quality.  
Montevideo, 50/-.  
Newcastle, Australia, 21/-.  
Newcastle, U. K., 23/6 to 25/- according to quality.  
Newport, 24/6.  
Nordenham, 31/5 Durham unscreened.  
Oran, 37/- 38/6 from March 6.  
Padang, Fl. 27.  
Pernambuco, 62/6.  
Piraeus, 45/-.  
Plymouth, 34/- North Country or Welsh.  
Port Kembla, 24/-.  
Port Natal, 31/3 to 32/9 according to quality.  
Port Pirie, 41/6 to 43/-.  
Port Said, 46/6 British.

Port Talbot, 24/6.  
Pulo Laut, S. E. Borneo, Fl. 20.  
Rio de Janeiro, 55/-  
Rosario, 52/6.  
Rotterdam, 29/9 Durham coal.  
St. Lucia, 51/-.  
St. Thomas, V. I., 50/-.  
St. Vincent, C. V. I., 42/6. From March 13.  
Santos, 57/6.  
Singapore, 45/- to 57/6 according to quality.  
Sourabaya, Fl. 30 to 35 according to quality and point of delivery.  
Southampton, upon application.  
Swansea, 24/6.  
Sydney, Australia, 37/6.  
Tarragona, upon application.  
Teneriffe, 38/-.  
Townsville, Australia, 56/6 to 66/6 according to point of delivery.  
Trieste, 42/-.  
Trinidad, 50/-.  
Valencia, upon application.  
Vigo, upon application.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing  
from Port of Cristobal for Week Ending April 15, 1922.

| Name of vessel.        | Line or charterer.                  | Arrived.      | Departed.     | Cargo—           |                  |
|------------------------|-------------------------------------|---------------|---------------|------------------|------------------|
|                        |                                     |               |               | Discharged       | Laded.           |
|                        |                                     |               |               | Tons.            | Tons.            |
| Acajutla.....          | Pacific Steam Navigation Co.....    | April 9.....  | April 9.....  |                  | 237              |
| Zacapa.....            | United Fruit Co.....                | April 9.....  | April 10..... | ( <sup>1</sup> ) | 113              |
| Solana.....            | Pacific Mail Steamship Co.....      | April 9.....  | April 11..... | 9,700            | ( <sup>1</sup> ) |
| Varg.....              | Caribbean Steamship Co.....         | April 9.....  | April 11..... | 63               | 11               |
| Nuhian.....            | Leyland Line.....                   | April 9.....  | April 11..... | 624              | ( <sup>1</sup> ) |
| Balboa.....            | Johnson Steamship Line.....         | April 9.....  | April 10..... | ( <sup>1</sup> ) | 89               |
| Martinique.....        | French Line.....                    | April 9.....  | April 13..... | 10               | 604              |
| Saint Andre.....       | French Line.....                    | April 10..... | April 11..... | 18               | ( <sup>1</sup> ) |
| Dinteldyk.....         | Holland-American Line.....          | April 10..... | April 11..... | 70               | 4                |
| Sarplos.....           | Caribbean Steamship Line.....       | April 10..... | April 11..... | 17               | ( <sup>1</sup> ) |
| Cartago.....           | United Fruit Co.....                | April 10..... | April 13..... | 1,393            | 1                |
| Pastores.....          | United Fruit Co.....                | April 11..... | April 12..... | 324              | 228              |
| Advance.....           | Panama Railroad Steamship Line..... | April 11..... | April 12..... | 450              |                  |
| San Blas.....          | United Fruit Co.....                | April 12..... | April 13..... | 14               | 50               |
| Ucayali.....           | Peruvian Line.....                  | April 12..... | April 13..... |                  | 633              |
| Zacapa.....            | United Fruit Co.....                | April 13..... | April 13..... | ( <sup>1</sup> ) | 5                |
| P. de Satrustegui..... | Spanish Line.....                   | April 13..... | April 15..... | 340              | 242              |
| Colon.....             | Panama Railroad Steamship Line..... | April 13..... | April 13..... | 2,409            |                  |
| Gen. H. F. Hodges..... | Panama Railroad Steamship Line..... | April 13..... | April 14..... | 796              |                  |
| Gen. O. H. Ernst.....  | Panama Railroad Steamship Line..... | April 14..... | April 14..... | 2,506            |                  |
| Coronado.....          | Elders & Fyffes, Ltd.....           | April 14..... | April 14..... | 34               | 150              |
| Alvarado.....          | Pacific Steam Navigation Co.....    | April 14..... | April 15..... | 258              |                  |
| Flonia.....            | East Asiatic Co.....                | April 15..... | April 15..... | 69               | ( <sup>1</sup> ) |
| Delft.....             | Royal Netherlands W. I. Mail.....   | April 15..... | April 15..... | 354              |                  |
| Urubamba.....          | Peruvian Line.....                  | April 15..... | April 15..... | 1,600            |                  |
| Mineola.....           | Grace Line.....                     | April 15..... | April 15..... | 290              | ( <sup>1</sup> ) |

\* No cargo discharged.

\* No cargo laded.

\* Box.

\* Pounds.

Report of Cargo Discharged and Laded by Vessels Entering and Clearing  
from Port of Balboa for Week Ending April 15, 1922.

| Name of vessel.  | Line or charterer.                 | Arrived.      | Departed.     | Cargo—     |        |
|------------------|------------------------------------|---------------|---------------|------------|--------|
|                  |                                    |               |               | Discharged | Laded. |
|                  |                                    |               |               | Tons.      | Tons.  |
| Acajutla.....    | Pacific Steam Navigation Co.....   | April 9.....  | April 9.....  |            | 14     |
| Chaumont.....    | United States Army.....            | April 11..... | April 12..... | 13         |        |
| Adour.....       | L. K. Salvosch.....                | April 12..... | April 13..... | 325        |        |
| Kakuyo Maru..... | Toyo Kisen Kaisha.....             | April 12..... | April 12..... | 43         | 74     |
| Aysen.....       | South American Steamship Line..... | April 15..... | April 15..... | 163        |        |
| Salvador.....    | Pacific Steam Navigation Co.....   | April 15..... | April 15..... |            | 3      |

## Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal Washington."



### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective April 15, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.20 |
| Brass, sheet, average.....                                        | Lb.            | .31    |
| Bronze, Tobin, average.....                                       | Lb.            | .25    |
| Gasoline, motor grade.....                                        | Gal.           | .3125  |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .11    |
| Oakum, Navy, unspun.....                                          | Lb.            | .14    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Bbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .51    |
| Oil, burning.....                                                 | Gal.           | 1.06   |
| Oil, engine, gas, in barrels.....                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .50    |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .40    |
| Oil, kerosene, in drums.....                                      | Gal.           | .21    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .56    |
| Paint, lead, white, dry.....                                      | Lb.            | .09    |
| Paint, lead, white, in oil.....                                   | Lb.            | .09    |
| Paint, zinc, white, dry.....                                      | Lb.            | .15    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .16    |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .09    |
| Soda, ash.....                                                    | Lb.            | .03    |
| Waste, cotton, colored.....                                       | Lb.            | .14    |
| Waste, cotton, white.....                                         | Lb.            | .15    |

### Official Circulars.

#### Act of Congress.—Second Deficiency Appropriation, 1922.

THE PANAMA CANAL,  
EXECUTIVE OFFICE.

BALBOA HEIGHTS, C. Z., April 6, 1922.

CIRCULAR NO. 600-82:

The extracts from an Act of Congress quoted below are published for the information of all concerned.

JAY J. MORROW,  
Governor.

AN ACT Making appropriations to supply deficiencies in appropriations for the fiscal year ending June 30, 1922, and prior fiscal years, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums are appropriated, out of any money in the Treasury not otherwise appropriated, to supply deficiencies in appropriations for the fiscal year ending June 30, 1922, and prior fiscal years, and for other purposes, namely:

#### DEPARTMENT OF STATE.

##### PAYMENT TO THE GOVERNMENT OF COLOMBIA.

To enable the Secretary of State to pay to the Government of Colombia the first payment from the Government of the United States to the Republic of Colombia under article 2 of the treaty of April 6, 1914, due within six months after ratifications of said treaty have been exchanged, \$5,000,000.

##### RELIEF AND PROTECTION OF AMERICAN SEAMEN.

For relief and protection of American seamen in foreign countries, and in the Panama Canal

Zone, and shipwrecked American seamen in the Territory of Alaska, in the Hawaiian Islands, Porto Rico, and the Philippine Islands, fiscal year 1920, \$13,198.73.

#### EXPOSITION, CITY OF PANAMA.

For participation in an exposition to be held in the City of Panama, including the same objects specified under this head in the Diplomatic and Consular Appropriation Act for the fiscal year 1916, \$95.47.

#### AUDITED CLAIMS.

SEC. 2. That for the payment of the following claims, certified to be due by the General Accounting Office under appropriations the balances of which have been exhausted or carried to the surplus fund under the provisions of section 5 of the Act of June 20, 1874, and under appropriations heretofore treated as permanent, being for the service of the fiscal year 1919 and prior years, unless otherwise stated, and which have been certified to Congress under section 2 of the Act of July 7, 1884, as fully set forth in House Document Numbered 174, reported to Congress at its present session, there is appropriated as follows:

#### WAR DEPARTMENT.

For armament of fortifications, Panama Canal, \$1,370.28.

For searchlights for seacoast fortifications, Canal Zone, Panama Canal, \$60.

SEC. 4. This Act hereafter may be referred to as the "Second Deficiency Act, Fiscal Year, 1922."

Approved, March 20, 1922.

**Acting Chief Quarantine Officer.**

THE PANAMA CANAL,  
HEALTH DEPARTMENT,  
BALBOA HEIGHTS, C. Z., April 12, 1922.

**SPECIAL ORDER NO. 594:**

Effective this date, Dr. C. A. Hearne will act as Chief Quarantine Officer, in addition to his regular duties, during the absence on leave of Dr. W. C. Rucker.

H. C. FISHER,  
Chief Health Officer.

**Scheduled Sailings of Panama Railroad Liners.**

The following are proposed sailings of vessels of the Panama Railroad Steamship Line between Cristobal and New York, all voyages being by way of Port-au-Prince, Haiti:

**NEW YORK TO CRISTOBAL.**

| Steamer.              | Leave.        | Arrive.   |
|-----------------------|---------------|-----------|
| Gen. G. W. Goethals.. | April 15..... | April 23. |
| Panama.....           | April 25..... | May 2.    |
| Colon.....            | May 5.....    | May 13.   |
| Gen. G. W. Goethals.. | May 15.....   | May 23.   |
| Panama.....           | May 25.....   | June 2.   |

**CRISTOBAL TO NEW YORK.**

|                       |               |           |
|-----------------------|---------------|-----------|
| Colon.....            | April 19..... | April 26. |
| Gen. G. W. Goethals.. | April 29..... | May 7.    |
| Panama.....           | May 9.....    | May 16.   |
| Colon.....            | May 19.....   | May 26.   |
| Gen. G. W. Goethals.. | May 29.....   | June 6.   |
| Panama.....           | June 9.....   | June 16.  |

**Binders for The Panama Canal Record.**

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

**Sale of Cattle.**

Grade Holstein bull calves 1 to 3 months old from registered sires. Also grade Hereford and Durham bulls and heifers 6 months to 2 years old. Sales will be made upon first satisfactory offer. For further information inquire Superintendent, Cattle Industry, Room 269, Administration Building, Balboa Heights.

**Scrap Burlap Bagging.**

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

**Sale of Lumber.**

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

**MOVEMENTS OF OCEAN VESSELS.**—Continued from page 457.**PORT OF CRISTOBAL.****\*ARRIVALS.**

| Date.         | Vessel.             | Line.                           | From—                   | Date.         | Vessel.             | Line.                | For—             |
|---------------|---------------------|---------------------------------|-------------------------|---------------|---------------------|----------------------|------------------|
| April 12..... | Gothic Star         | Blue Star Line.                 | High seas.              | April 13..... | Gothic Star         | Blue Star Line.      | London.          |
| April 12..... | San Blas            | United Fruit Co.                | Boston via Habana.      | April 14..... | Coronado            | Elders & Fyffes Ltd. | Kingston.        |
| April 13..... | Colon               | Panama Railroad Steamship Line. | New York via Haiti.     | April 15..... | P. de Sautrustegui. | Spanish Line.        | Puerto Colombia. |
| April 13..... | P. de Sautrustegui. | Spanish Line.                   | Barcelona via wayports. |               |                     |                      |                  |
| April 13..... | Zacapa              | United Fruit Co.                | Bocas del Toro.         |               |                     |                      |                  |
| April 14..... | O-12                | United States Navy.             | Guantanamo.             |               |                     |                      |                  |
| April 14..... | O-14                | United States Navy.             | Guantanamo.             |               |                     |                      |                  |
| April 14..... | O-15                | United States Navy.             | Guantanamo.             |               |                     |                      |                  |
| April 14..... | O-16                | United States Navy.             | Guantanamo.             |               |                     |                      |                  |
| April 14..... | Bushnell            | United States Navy.             | Guantanamo.             |               |                     |                      |                  |
| April 14..... | Coronado.           | Elders & Fyffes, Ltd.           | Port Limon.             |               |                     |                      |                  |

**PORT OF BALBOA.**

|               |              |                    |               |
|---------------|--------------|--------------------|---------------|
| April 12..... | Adour.       | K. Salvesen        | Punta Arenas. |
| April 12..... | Rakuyo Maru. | Toyo Kisen Kaisha. | Hongkong.     |

\*Other than ships passing through the Canal.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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The Panama Canal Record, Balboa Heights, Canal Zone, or

The Panama Canal, Washington, D. C.

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at Cristobal, C. Z., under the Act of March 3, 1879.

*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., April 26, 1922.

No. 37.

## Northwest Cargoes.

According to statistics gathered by a steamship agent at Seattle, between 2,000,000 and 2,500,000 boxes of Northwest apples are shipped annually to the United Kingdom. The steamship lines secured about 100,000 boxes of this total in 1920-1921 and approximately 500,000 boxes in 1921-1922. The balances went by rail to the east coast. The all-water route via the Panama Canal has an advantage both in rates and handling. Out of 30,000 boxes landed at Glasgow last fall from the S. S. *Molier*e only 4 were broken. The loss on shipments by water direct is ordinarily about one-half of one per cent. The assignment of new and specialized refrigerator ships to this trade is expected to develop it still further next year.

Shipments of Canadian wheat via Vancouver and Panama totaled 40,758 tons during January, February, and March, 1922. The further development of this trade also seems probable.

## Hydrographic Information.

The Marine Superintendent of The Panama Canal authorizes the following memorandum to all concerned:

Hydrographic information, pertaining to floating derelicts, mines, logs, etc., light changes or failures, aids to navigation adrift, or any like information, important to navigators, is being broadcasted by radio by the local Hydrographic Office, acting for the Hydrographic Division, United States Navy.

When such information is received, whether by radiogram, letter, or verbally, it should be telephoned promptly to the Chief Hydrographer for confirmation and distribution. If of considerable importance, after being radioed and telephoned to the Port Captains by the Hydrographer, a local notice to mariners is gotten out, signed by the Governor, and mimeographed as a local circular. Also confirmation of the radiogram broadcasted is sent to the Communication Officer, U. S. Navy, the branch Hydrographic Office, Cristobal, and the Hydrographic Office, U. S. Navy, Washington.

If the information is of considerable importance and is received out of regular office hours, it should be telephoned to a hydrographer's residence, from whence it will be confirmed and distributed by radio and by telephone to the Port Captains' offices.

## CANAL WORK IN MARCH.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of March, 1922:

BALBOA HEIGHTS, C. Z., April 15, 1922.

*The Honorable, the Secretary of War,*  
*Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of March, 1922:

### CANAL TRAFFIC.

The total number of vessels and craft of all kinds transiting the Canal during the month of March, 1922, as compared with the preceding month and with the corresponding month of last year, was as follows:



|                                                 | March,<br>1922. | February,<br>1922. | March,<br>1921. |
|-------------------------------------------------|-----------------|--------------------|-----------------|
| Commercial vessels.....                         | 234             | 210                | 255             |
| Noncommercial vessels.....                      | 15              | 22                 | 37              |
| Launches, etc. (under 10 tons measurement)..... | 4               | 6                  | 11              |
| Total vessels and craft through Canal.....      | 253             | 238                | 303             |

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, craneboats, graders, etc., was passed through locks as follows:

|                   |    |
|-------------------|----|
| Gatun.....        | 23 |
| Pedro Miguel..... | 32 |
| Miraflores.....   | 33 |

COMMERCIAL TRAFFIC.<sup>1</sup>*Tolls.*

Under the present dual method of assessing tolls, the revenue from this source was \$956,726.76. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the total revenue would have been increased by \$185,694.92. These additional tolls would have been contributed by nationality of vessels as follows:

|                    | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------|----------------------------|----------------------------|-------------|
| British.....       | \$39,253.05                | \$17,081.65                | \$56,334.70 |
| Chilean.....       | 2,428.80                   | 2,428.80                   | 4,857.60    |
| Danish.....        |                            | 893.60                     | 893.60      |
| Dutch.....         | 2,947.95                   | 4,303.20                   | 7,251.15    |
| French.....        | 1,272.40                   | 461.30                     | 1,733.70    |
| German.....        | 3,355.45                   | 486.95                     | 3,842.40    |
| Italian.....       | 980.75                     |                            | 980.75      |
| Japanese.....      | 3,157.70                   | 2,410.00                   | 5,567.70    |
| Norwegian.....     | 5,560.89                   | 765.95                     | 6,326.75    |
| Peruvian.....      | 3,015.25                   | 3,015.25                   | 6,030.50    |
| Swedish.....       | 1,564.50                   | 44.70                      | 1,609.20    |
| United States..... | 47,433.52                  | 42,833.35                  | 90,266.87   |
| Totals.....        | 110,970.17                 | 74,724.75                  | 185,694.92  |

The additional tolls which would have been assessed against United States vessels would have been distributed among the following channels of trade:

|                                                  | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------------------------------------|----------------------------|----------------------------|-------------|
| United States coastwise ports.....               | \$31,397.87                | \$27,979.50                | \$59,377.37 |
| United States and Canal Zone ports.....          | 1,587.10                   | 774.70                     | 2,361.80    |
| United States and United States possessions..... | 2,042.70                   | 1,936.00                   | 3,978.70    |
| United States and foreign ports.....             | 9,937.25                   | 10,943.45                  | 20,880.70   |
| Between foreign ports.....                       | 2,468.60                   | 1,199.70                   | 3,668.30    |
| Totals.....                                      | 47,433.52                  | 42,833.35                  | 90,266.87   |

Of the \$185,694.92 additional revenue that would have been collected by using the Panama Canal rules exclusively, \$7,622.40 represents the additional tolls that would have been collected on account of deck cargo.

## COMPARATIVE TRAFFIC STATISTICS.

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal in March, 1922, with that of the preceding month along the lines indicated at the head of the various tables.

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Ships not paying tolls are classed as "noncommercial."



## TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | March, 1922. | February, 1922. | March, 1921.   | Average month for past year. |
|-------------------------------------------|--------------|-----------------|----------------|------------------------------|
| United States equivalent net tonnage..... | 786,759      | 710,548         | 924,309        | 742,255                      |
| Panama Canal net tonnage.....             | 975,811      | 886,535         | 1,112,818      | 918,558                      |
| Registered gross tonnage.....             | 1,226,971    | 1,116,014       | 1,417,220      | 1,156,058                    |
| Registered net tonnage.....               | 776,034      | 700,126         | 917,441        | 736,709                      |
| Tolls.....                                | \$956,726.76 | \$866,266.18    | \$1,105,536.55 | \$901,087.71                 |
| Cargo.....                                | 960,089      | 838,074         | 1,184,563      | 841,495                      |

## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED.

|                                           | March, 1922. | February, 1922. | March, 1921. |
|-------------------------------------------|--------------|-----------------|--------------|
| United States equivalent net tonnage..... | 3,362        | 3,351           | 3,624        |
| Panama Canal net tonnage.....             | 4,170        | 4,182           | 4,364        |
| Registered gross tonnage.....             | 5,243        | 5,264           | 5,557        |
| Registered net tonnage.....               | 3,316        | 3,302           | 3,597        |
| Tolls.....                                | \$4,088.57   | \$4,086.16      | \$4,335.44   |
| Tons of cargo (all vessels).....          | 4,103        | 3,953           | 4,645        |
| Tons of cargo (laden vessels only).....   | 4,424        | 4,411           | 4,844        |

## AVERAGE TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

All cargo-carrying vessels pay tolls on their net tonnage as determined by established rules for measuring their available cargo-carrying space; the rate of such tolls per cargo ton varies in different ships as the ratio of cargo tonnage to the net tonnage. The table below is indicative of the ratio of cargo tonnage to net tonnage for the month of March, 1922, by nationality of vessels.

|                                             | Atlantic to Pacific. | Pacific to Atlantic. | General average. |
|---------------------------------------------|----------------------|----------------------|------------------|
| British.....                                | \$1.01               | \$1.06               | \$1.02           |
| Chilean.....                                | 2.67                 | 14.94                | 4.53             |
| Danish.....                                 |                      | .79                  | .79              |
| Dutch.....                                  | 1.02                 | .81                  | .90              |
| French.....                                 | 1.71                 | .98                  | 1.04             |
| German.....                                 | 1.49                 | .80                  | 1.23             |
| Italian.....                                | 2.99                 |                      | 2.99             |
| Japanese.....                               | .75                  | .70                  | .74              |
| Norwegian.....                              | .79                  | 6.19                 | .96              |
| Peruvian.....                               | 4.41                 | 1.89                 | 2.34             |
| Swedish.....                                | .64                  | .63                  | .64              |
| United States.....                          | 1.06                 | .94                  | 1.01             |
| Average rate all ships, March, 1922.....    | .99                  | .99                  | .99              |
| Average rate all ships, February, 1922..... | 1.09                 | .97                  | 1.03             |
| Average rate all ships, March, 1921.....    | .97                  | 1.05                 | 1.00             |

## COMMODITY STATISTICS.

A classification of cargo passing through the Panama Canal during the month of March, 1922, has been compiled from declarations of cargo and manifests submitted by the ships' masters, and while incomplete, it is indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From the cargo declarations and manifests submitted it was possible to classify by commodities 71 per cent of all cargo passing from the Atlantic to the Pacific, and 93 per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith:

| Commodity.                             | March, 1922. | February, 1922. | January, 1922. | December, 1921. | November, 1921. | October, 1921. |
|----------------------------------------|--------------|-----------------|----------------|-----------------|-----------------|----------------|
| Atlantic to Pacific.                   |              |                 |                |                 |                 |                |
| Oils:                                  |              |                 |                |                 |                 |                |
| Crude.....                             | 41,504       | 41,755          | 65,862         | 48,272          | 30,144          | 68,891         |
| Refined.....                           | 32,679       | 28,893          | 28,407         | 46,970          | 47,944          | 25,840         |
| Other.....                             | 5,143        | 6,699           | 6,230          | 1,918           | 3,113           | 1,121          |
| Manufactured goods:                    |              |                 |                |                 |                 |                |
| Iron and steel.....                    | 130,906      | 109,575         | 78,020         | 81,168          | 65,071          | 48,074         |
| Machinery, railroad material, etc..... | 25,402       | 18,142          | 38,689         | 24,120          | 23,927          | 14,659         |
| Coal and coke.....                     | 50,487       | 32,545          | 37,587         | 46,462          | 52,850          | 21,512         |
| Cotton, raw.....                       | 7,507        | 18,218          | 8,793          | 37,614          | 20,807          | 14,720         |
| Metals.....                            | 27,665       | 12,246          | 10,992         | 22,007          | 10,052          | 8,880          |
| Ammonia.....                           | 6,716        | 8,783           | 10,767         | 11,592          | 7,447           | 12,072         |
| Cement.....                            | 4,364        | 4,662           | 2,675          | 10,809          | 5,233           | 2,681          |
| Paper.....                             | 2,543        | 2,198           | 2,569          | 5,077           | 2,900           | 2,813          |

| Commodity.                                | March,<br>1922. | February,<br>1922. | January,<br>1922. | December,<br>1921. | November,<br>1921. | October,<br>1921. |
|-------------------------------------------|-----------------|--------------------|-------------------|--------------------|--------------------|-------------------|
| Atlantic to Pacific.—Continued.           |                 |                    |                   |                    |                    |                   |
| Sulphur.....                              | 2,000           | 15,400             | 18,025            | 4,000              | 2,500              | .....             |
| Tobacco.....                              | 4,683           | 3,923              | 1,831             | 3,086              | 2,075              | 2,879             |
| Other and general.....                    | 240,353         | 139,786            | 183,144           | 174,015            | 112,618            | 150,290           |
| Totals.....                               | 581,952         | 442,825            | 493,591           | 517,110            | 386,681            | 374,437           |
| Pacific to Atlantic.                      |                 |                    |                   |                    |                    |                   |
| Nitrate.....                              | 22,231          | 27,022             | 46,716            | 59,957             | 39,523             | 54,256            |
| Manufactured goods: Iron, steel, etc..... | 1,514           | 214                | 2,369             | 2,550              | 265                | 1,053             |
| Wheat.....                                | 23,212          | 57,514             | 29,333            | 35,127             | 110,831            | 128,375           |
| Lumber.....                               | 74,432          | 64,002             | 57,347            | 42,610             | 50,564             | 56,606            |
| Barley.....                               | 7,362           | 6,596              | 8,462             | 21,781             | 37,989             | 67,092            |
| Oils:                                     |                 |                    |                   |                    |                    |                   |
| Crude.....                                | 9,307           | 10,505             | .....             | 4,723              | 26,617             | 670               |
| Refined.....                              | 10,272          | 10                 | 42                | 16,165             | 10,169             | 9,713             |
| Other.....                                | 13,414          | 15,516             | 1,958             | 14,469             | 761                | 1,581             |
| Canned goods:                             |                 |                    |                   |                    |                    |                   |
| Fish.....                                 | 12,855          | 10,798             | 9,246             | 5,202              | 13,767             | 32,761            |
| Fruit.....                                | 20,544          | 8,428              | 11,729            | 15,982             | 19,808             | 25,547            |
| Vegetables, milk.....                     | 2,512           | 1,211              | 890               | 1,660              | 1,470              | 2,523             |
| Ores.....                                 | 4,192           | 32,265             | 10,647            | 9,805              | 13,218             | 3,824             |
| Metals.....                               | 18,222          | 14,659             | 14,234            | 10,959             | 14,515             | 11,078            |
| Fruit, dried and fresh.....               | 7,235           | 11,549             | 8,697             | 3,876              | 13,060             | 4,162             |
| Sugar.....                                | 6,886           | 3,624              | 12,679            | 29,879             | 11,210             | 20,261            |
| Beans, peas.....                          | 7,616           | 3,766              | 5,088             | 5,351              | 9,270              | 20,547            |
| Flour.....                                | 3,147           | 3,796              | 1,017             | 8,881              | 8,799              | 19,000            |
| Phosphates.....                           | 7,500           | 6,500              | 7,930             | 8,900              | 7,300              | 14,057            |
| Cold storage.....                         | 19,926          | 17,207             | 5,786             | 13,809             | 4,920              | 18,739            |
| Cotton.....                               | 4,837           | 3,423              | 4,238             | 6,660              | 4,856              | 12,592            |
| Rice.....                                 | 801             | 400                | 1,621             | 6,401              | 4,678              | 4,054             |
| Wool.....                                 | 20,581          | 18,363             | 16,024            | 5,555              | 4,349              | 9,081             |
| Coffee.....                               | 16,210          | 9,484              | 3,775             | 4,529              | 3,785              | 4,594             |
| Ivory nuts.....                           | 1,527           | 1,909              | 2,717             | 2,482              | 3,012              | 2,811             |
| Cacao.....                                | 2,518           | 1,866              | 3,917             | 4,745              | 2,862              | 3,844             |
| Tea.....                                  | 1,308           | 38                 | 410               | 1,394              | 1,983              | 3,950             |
| Other and general.....                    | 58,476          | 64,579             | 46,835            | 92,491             | 49,148             | 78,567            |
| Totals.....                               | 378,137         | 395,249            | 313,707           | 435,943            | 468,759            | 611,338           |

## UNITED STATES COASTWISE TRAFFIC.

|                | Atlantic to Pacific. |                       |             |                   | Pacific to Atlantic. |                       |             |                   |
|----------------|----------------------|-----------------------|-------------|-------------------|----------------------|-----------------------|-------------|-------------------|
|                | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. |
| 1921.          |                      |                       |             |                   |                      |                       |             |                   |
| January.....   | 17                   | 88,086                | \$91,390.00 | 76,593            | 16                   | 62,765                | \$64,343.59 | 81,336            |
| February.....  | 15                   | 80,940                | 79,169.10   | 67,302            | 17                   | 66,043                | 66,703.70   | 68,345            |
| March.....     | 16                   | 71,770                | 75,338.65   | 55,111            | 11                   | 61,804                | 64,470.64   | 52,289            |
| April.....     | 19                   | 92,033                | 94,185.00   | 94,484            | 14                   | 68,368                | 65,523.74   | 59,806            |
| May.....       | 19                   | 82,257                | 84,545.85   | 90,617            | 16                   | 75,593                | 72,813.55   | 93,242            |
| June.....      | 17                   | 96,199                | 94,577.11   | 68,809            | 11                   | 53,985                | 53,953.75   | 57,234            |
| July.....      | 19                   | 101,924               | 99,474.75   | 60,967            | 14                   | 70,477                | 72,103.75   | 91,991            |
| August.....    | 19                   | 86,278                | 81,724.17   | 55,387            | 23                   | 110,899               | 118,316.25  | 129,792           |
| September..... | 25                   | 134,239               | 136,340.58  | 72,620            | 15                   | 88,111                | 83,011.64   | 104,642           |
| October.....   | 22                   | 113,712               | 116,752.05  | 86,442            | 19                   | 96,731                | 101,710.00  | 105,951           |
| November.....  | 24                   | 136,349               | 131,558.19  | 91,067            | 17                   | 86,958                | 88,339.80   | 101,460           |
| December.....  | 20                   | 104,152               | 106,549.80  | 73,967            | 23                   | 116,482               | 117,600.08  | 105,134           |
| 1922.          |                      |                       |             |                   |                      |                       |             |                   |
| January.....   | 28                   | 138,928               | 141,404.35  | 119,413           | 20                   | 108,921               | 111,440.00  | 86,862            |
| February.....  | 25                   | 117,512               | 116,235.50  | 94,548            | 19                   | 89,862                | 84,133.82   | 84,330            |
| March.....     | 34                   | 162,572               | 161,738.65  | 141,648           | 25                   | 128,988               | 124,465.78  | 123,657           |

## UNITED STATES SHIPPING BOARD VESSELS.

| 1921.          |    |        |             |        |    |        |             |         |
|----------------|----|--------|-------------|--------|----|--------|-------------|---------|
| January.....   | 14 | 59,738 | \$64,769.85 | 70,058 | 23 | 96,877 | \$93,268.29 | 98,075  |
| February.....  | 8  | 41,024 | 42,951.75   | 35,018 | 20 | 96,441 | 94,082.01   | 108,285 |
| March.....     | 18 | 94,823 | 96,782.80   | 83,978 | 8  | 34,066 | 31,378.00   | 30,025  |
| April.....     | 13 | 61,176 | 61,590.00   | 60,231 | 12 | 56,049 | 53,162.18   | 52,908  |
| May.....       | 9  | 39,614 | 40,180.00   | 48,489 | 21 | 97,257 | 92,380.47   | 114,107 |
| June.....      | 17 | 83,361 | 78,770.14   | 65,945 | 11 | 49,370 | 48,080.00   | 59,696  |
| July.....      | 12 | 67,851 | 65,796.25   | 29,918 | 12 | 60,804 | 61,305.00   | 82,767  |
| August.....    | 15 | 76,570 | 71,607.58   | 46,542 | 18 | 79,390 | 77,353.39   | 91,897  |
| September..... | 10 | 53,816 | 51,785.48   | 38,368 | 16 | 84,433 | 82,566.25   | 109,610 |
| October.....   | 10 | 55,300 | 53,475.00   | 34,593 | 11 | 61,680 | 62,318.75   | 79,129  |
| November.....  | 12 | 74,635 | 71,525.74   | 44,976 | 5  | 29,949 | 29,127.50   | 28,865  |
| December.....  | 9  | 47,604 | 46,318.75   | 41,101 | 6  | 32,957 | 32,803.75   | 28,784  |
| 1922.          |    |        |             |        |    |        |             |         |
| January.....   | 6  | 34,546 | 34,756.25   | 23,575 | 7  | 31,550 | 30,646.95   | 28,831  |
| February.....  | 8  | 39,168 | 36,706.25   | 49,424 | 6  | 32,909 | 31,538.75   | 21,119  |
| March.....     | 16 | 81,766 | 86,531.95   | 90,633 | 9  | 51,848 | 46,734.49   | 37,310  |

## CLASSIFICATION OF COMMERCIAL TRAFFIC BY NATIONALITY, MARCH, 1922.

| Nationality.                | No. of ships. | Tonnage.                  |                   |             |         | Tolls.       | Tons of cargo. |
|-----------------------------|---------------|---------------------------|-------------------|-------------|---------|--------------|----------------|
|                             |               | United States equivalent. | Panama Canal net. | Registered. |         |              |                |
|                             |               |                           |                   | Gross.      | Net.    |              |                |
| From Atlantic to Pacific.   |               |                           |                   |             |         |              |                |
| British                     | 45            | 154,333                   | 195,916           | 235,967     | 148,207 | \$190,008.15 | 189,651        |
| Chilean                     | 2             | 3,072                     | 5,224             | 6,543       | 3,921   | 3,840.00     | 1,434          |
| Dutch                       | 2             | 6,465                     | 9,191             | 10,323      | 6,425   | 8,081.25     | 7,944          |
| French                      | 4             | 14,243                    | 15,567            | 19,636      | 12,412  | 17,408.00    | 16,258         |
| German                      | 4             | 9,019                     | 12,191            | 13,849      | 8,095   | 11,273.75    | 7,579          |
| Italian                     | 1             | 3,353                     | 4,310             | 5,868       | 3,579   | 4,191.25     | 1,400          |
| Japanese                    | 10            | 41,164                    | 44,872            | 58,645      | 39,394  | 50,688.70    | 67,692         |
| Norwegian                   | 9             | 25,906                    | 31,378            | 39,891      | 24,873  | 32,227.20    | 41,811         |
| Peruvian                    | 2             | 2,719                     | 5,345             | 9,020       | 4,517   | 3,398.75     | 769            |
| Swedish                     | 2             | 4,062                     | 5,434             | 6,572       | 4,912   | 4,956.30     | 7,716          |
| United States               | 57            | 207,684                   | 256,613           | 318,002     | 204,819 | 254,301.20   | 239,696        |
| Totals                      | 138           | 472,020                   | 586,041           | 724,316     | 461,154 | 580,374.55   | 581,952        |
| From Pacific to Atlantic.   |               |                           |                   |             |         |              |                |
| British                     | 30            | 86,024                    | 104,469           | 140,992     | 85,103  | 103,761.23   | 97,668         |
| Chilean                     | 2             | 3,072                     | 5,224             | 6,543       | 3,921   | 3,840.00     | 257            |
| Danish                      | 2             | 8,888                     | 10,003            | 11,364      | 7,251   | 11,110.00    | 13,970         |
| Dutch                       | 3             | 6,576                     | 10,099            | 10,340      | 6,601   | 8,220.00     | 10,229         |
| French                      | 2             | 7,926                     | 8,579             | 11,360      | 7,213   | 9,838.30     | 10,001         |
| German                      | 1             | 2,957                     | 3,486             | 4,750       | 2,969   | 3,696.25     | 4,591          |
| Japanese                    | 2             | 7,912                     | 10,250            | 12,808      | 7,874   | 9,890.00     | 14,120         |
| Norwegian                   | 4             | 10,570                    | 12,550            | 16,877      | 10,625  | 9,448.93     | 1,525          |
| Peruvian                    | 3             | 5,409                     | 8,132             | 12,619      | 7,191   | 6,743.15     | 3,557          |
| Swedish                     | 1             | 1,338                     | 1,431             | 2,242       | 1,595   | 1,672.50     | 2,650          |
| United States               | 46            | 174,067                   | 215,547           | 272,760     | 174,537 | 208,131.85   | 219,569        |
| Totals                      | 96            | 314,739                   | 389,770           | 502,655     | 314,880 | 376,352.21   | 378,137        |
| Combined traffic both ways. |               |                           |                   |             |         |              |                |
| British                     | 75            | 240,357                   | 300,385           | 376,959     | 233,310 | 293,769.38   | 287,319        |
| Chilean                     | 4             | 6,144                     | 10,448            | 13,086      | 7,842   | 7,680.00     | 1,693          |
| Danish                      | 2             | 8,888                     | 10,003            | 11,364      | 7,251   | 11,110.00    | 13,970         |
| Dutch                       | 5             | 13,041                    | 19,290            | 20,663      | 13,026  | 16,301.25    | 18,173         |
| French                      | 6             | 22,169                    | 24,146            | 30,996      | 19,625  | 27,246.30    | 26,259         |
| German                      | 5             | 11,976                    | 15,677            | 18,599      | 11,064  | 14,970.00    | 12,170         |
| Italian                     | 1             | 3,353                     | 4,310             | 5,868       | 3,579   | 4,191.25     | 1,400          |
| Japanese                    | 12            | 49,076                    | 55,122            | 71,453      | 47,268  | 60,578.70    | 81,812         |
| Norwegian                   | 13            | 36,476                    | 43,928            | 56,768      | 35,498  | 41,676.13    | 43,336         |
| Peruvian                    | 5             | 8,128                     | 13,477            | 21,639      | 11,708  | 10,141.90    | 4,326          |
| Swedish                     | 3             | 5,400                     | 6,865             | 8,814       | 6,507   | 6,628.80     | 10,366         |
| United States               | 103           | 381,751                   | 472,160           | 590,762     | 379,356 | 462,433.05   | 459,265        |
| Totals                      | 234           | 786,759                   | 975,811           | 1,226,971   | 776,034 | 956,726.76   | 960,089        |

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.        | East coast of United States. | Europe. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|---------------|------------------------------|---------|---------|------------|----------------|---------|
| 1921.         |                              |         |         |            |                |         |
| January       | 284,111                      | 129,939 | 60,564  | 21,373     | 21,732         | 517,719 |
| February      | 268,727                      | 75,532  | 55,859  | 18,844     | 16,271         | 435,233 |
| March         | 291,937                      | 188,548 | 85,275  | 20,731     | 27,100         | 613,591 |
| April         | 261,497                      | 131,840 | 46,289  | 21,846     | 31,034         | 492,506 |
| May           | 231,751                      | 107,404 | 48,151  | 20,612     | 6,511          | 414,429 |
| June          | 250,806                      | 79,129  | 37,401  | 28,920     | 19,046         | 415,302 |
| July          | 221,318                      | 124,108 | 23,167  | 23,488     | 10,970         | 403,051 |
| August        | 257,600                      | 175,768 | 15,527  | 21,202     | 17,122         | 487,219 |
| September     | 277,984                      | 160,534 | 10,889  | 23,038     | 58,189         | 530,634 |
| October       | 262,440                      | 226,431 | 27,828  | 20,516     | 33,960         | 571,175 |
| November      | 301,680                      | 192,594 | 14,997  | 18,444     | 11,302         | 539,071 |
| December      | 312,225                      | 198,287 | 21,113  | 15,601     | 28,443         | 575,669 |
| 1922.         |                              |         |         |            |                |         |
| January       | 279,870                      | 153,315 | 30,271  | 18,398     | 31,910         | 513,764 |
| February      | 273,996                      | 146,572 | 30,477  | 19,061     | 17,899         | 488,005 |
| March         | 382,213                      | 144,630 | 17,223  | 21,389     | 20,586         | 586,041 |
| Average month | 277,211                      | 148,975 | 35,002  | 20,897     | 23,452         | 505,557 |

## THE PANAMA CANAL RECORD

## DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.             | West coast<br>of United<br>States. | West coast<br>of South<br>America. | Far East. | Austral-<br>asia. | Miscel-<br>laneous. | Total.  |
|--------------------|------------------------------------|------------------------------------|-----------|-------------------|---------------------|---------|
| 1921.              |                                    |                                    |           |                   |                     |         |
| January.....       | 163,295                            | 170,861                            | 56,082    | 94,583            | 32,898              | 517,719 |
| February.....      | 119,271                            | 168,904                            | 66,958    | 62,507            | 17,593              | 435,233 |
| March.....         | 139,889                            | 146,075                            | 118,053   | 153,910           | 55,664              | 613,591 |
| April.....         | 141,584                            | 135,622                            | 131,067   | 64,155            | 19,508              | 492,506 |
| May.....           | 125,091                            | 103,143                            | 82,499    | 82,582            | 21,114              | 414,429 |
| June.....          | 143,217                            | 106,369                            | 83,063    | 46,298            | 36,355              | 415,302 |
| July.....          | 194,358                            | 45,391                             | 63,969    | 58,062            | 41,271              | 403,051 |
| August.....        | 164,577                            | 106,886                            | 94,486    | 70,551            | 50,719              | 487,219 |
| September.....     | 268,758                            | 90,105                             | 80,242    | 53,309            | 38,220              | 530,634 |
| October.....       | 280,483                            | 78,532                             | 100,332   | 69,057            | 42,771              | 571,175 |
| November.....      | 216,092                            | 107,721                            | 95,216    | 78,493            | 41,495              | 539,017 |
| December.....      | 188,615                            | 115,980                            | 136,940   | 84,391            | 49,743              | 575,669 |
| 1922.              |                                    |                                    |           |                   |                     |         |
| January.....       | 170,927                            | 112,160                            | 100,878   | 83,526            | 46,273              | 513,764 |
| February.....      | 151,388                            | 107,476                            | 107,197   | 94,271            | 27,673              | 488,005 |
| March.....         | 195,833                            | 105,532                            | 149,697   | 83,107            | 51,872              | 586,041 |
| Average month..... | 177,558                            | 113,384                            | 97,817    | 78,587            | 38,211              | 505,557 |

## ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.             | West coast<br>of United<br>States. | West coast<br>of South<br>America. | Far East. | Austral-<br>asia. | Miscel-<br>laneous. | Total.  |
|--------------------|------------------------------------|------------------------------------|-----------|-------------------|---------------------|---------|
| 1921.              |                                    |                                    |           |                   |                     |         |
| January.....       | 151,034                            | 230,437                            | 26,843    | 115,206           | 53,084              | 576,604 |
| February.....      | 173,815                            | 226,242                            | 22,473    | 34,616            | 24,459              | 481,605 |
| March.....         | 163,294                            | 203,002                            | 28,525    | 62,652            | 41,754              | 499,227 |
| April.....         | 139,495                            | 168,585                            | 29,756    | 85,560            | 38,601              | 462,997 |
| May.....           | 174,128                            | 137,258                            | 12,407    | 81,086            | 45,309              | 450,188 |
| June.....          | 116,521                            | 112,474                            | 18,740    | 75,400            | 23,040              | 346,175 |
| July.....          | 174,412                            | 99,745                             | 41,084    | 70,124            | 22,197              | 407,562 |
| August.....        | 229,629                            | 110,248                            | 20,623    | 68,661            | 48,894              | 478,067 |
| September.....     | 218,453                            | 84,212                             | 14,762    | 30,814            | 46,262              | 394,503 |
| October.....       | 252,645                            | 124,560                            | 37,720    | 41,436            | 42,018              | 498,379 |
| November.....      | 189,942                            | 126,381                            | 23,556    | 6,581             | 56,934              | 403,394 |
| December.....      | 195,969                            | 135,952                            | 28,194    | 39,616            | 41,844              | 441,575 |
| 1922.              |                                    |                                    |           |                   |                     |         |
| January.....       | 152,992                            | 190,224                            | 16,860    | 27,172            | 35,504              | 332,752 |
| February.....      | 142,693                            | 110,778                            | 21,594    | 42,950            | 80,515              | 398,530 |
| March.....         | 175,669                            | 104,847                            | 15,008    | 48,575            | 45,671              | 389,770 |
| Average month..... | 176,712                            | 138,330                            | 23,876    | 55,362            | 43,072              | 437,422 |

## DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.             | Europe. | East coast<br>of United<br>States. | Mexico. | Cristobal. | Miscel-<br>laneous. | Total.  |
|--------------------|---------|------------------------------------|---------|------------|---------------------|---------|
| 1921.              |         |                                    |         |            |                     |         |
| January.....       | 293,836 | 188,133                            | 49,947  | 23,295     | 41,393              | 576,604 |
| February.....      | 175,324 | 163,690                            | 74,363  | 18,056     | 50,174              | 481,605 |
| March.....         | 190,683 | 189,793                            | 83,700  | 21,228     | 13,823              | 499,227 |
| April.....         | 189,209 | 197,311                            | 53,334  | 22,043     | 1,100               | 462,997 |
| May.....           | 201,548 | 140,940                            | 73,705  | 21,549     | 12,446              | 450,188 |
| June.....          | 155,147 | 136,292                            | 18,324  | 26,112     | 10,300              | 346,175 |
| July.....          | 205,690 | 134,047                            | 23,123  | 28,770     | 15,932              | 407,562 |
| August.....        | 231,830 | 194,279                            | 27,256  | 22,022     | 2,670               | 478,067 |
| September.....     | 204,820 | 140,555                            | 26,478  | 17,114     | 5,536               | 394,503 |
| October.....       | 259,613 | 170,189                            | 18,222  | 30,955     | 19,400              | 488,379 |
| November.....      | 196,974 | 164,345                            | 20,446  | 16,760     | 4,869               | 403,394 |
| December.....      | 191,277 | 192,575                            | 25,550  | 21,739     | 10,434              | 441,575 |
| 1922.              |         |                                    |         |            |                     |         |
| January.....       | 115,392 | 168,337                            | 26,831  | 16,489     | 5,703               | 332,752 |
| February.....      | 163,919 | 172,900                            | 31,767  | 18,242     | 11,702              | 398,530 |
| March.....         | 134,687 | 193,267                            | 34,969  | 18,724     | 8,123               | 389,770 |
| Average month..... | 193,997 | 169,777                            | 39,201  | 21,573     | 12,904              | 437,422 |



In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of March, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year:

|                                  | Tonnage routed to— |                    | Tonnage routed from— |                    |
|----------------------------------|--------------------|--------------------|----------------------|--------------------|
|                                  | Per cent increase. | Per cent decrease. | Per cent increase.   | Per cent decrease. |
| Europe.....                      |                    | 30.6               |                      | 3.0                |
| East coast of United States..... | 13.8               |                    | 38.0                 |                    |
| East coast of Mexico.....        |                    | 11.1               |                      | 52.0               |
| Cristobal, C. Z.....             |                    | 13.0               |                      | 3.8                |
| West coast of United States..... | 10.3               |                    |                      | 0.6                |
| West coast of South America..... |                    | 7.0                |                      | 24.8               |
| Australasia.....                 | 5.9                |                    |                      | 12.4               |
| Far East.....                    | 53.0               |                    |                      | 36.8               |

## TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of March, 1922, has been previously compiled and was published in THE PANAMA CANAL RECORD under date of April 12, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes for the month of March, 1922, for the preceding month, and for the corresponding month of last year.

| Vessels plying between—              | Atlantic to Pacific.      |                 |              | Pacific to Atlantic.      |                 |              |
|--------------------------------------|---------------------------|-----------------|--------------|---------------------------|-----------------|--------------|
|                                      | March, 1922.              | February, 1922. | March, 1921. | March, 1922.              | February, 1922. | March, 1921. |
|                                      | Number of vessels.        |                 |              | Number of vessels.        |                 |              |
| United States coastwise.....         | 34                        | 25              | 16           | 25                        | 19              | 11           |
| United States and Far East.....      | 26                        | 17              | 20           | 3                         | 3               | 5            |
| Europe and United States.....        | 6                         | 4               | 8            | 7                         | 9               | 12           |
| United States and South America..... | 14                        | 11              | 15           | 11                        | 12              | 17           |
| Europe and South America.....        | 9                         | 10              | 9            | 11                        | 11              | 16           |
| Cristobal and South America.....     | 7                         | 12              | 9            | 8                         | 10              | 9            |
| Europe and Australasia.....          | 9                         | 9               | 14           | 8                         | 5               | 8            |
| United States and Australasia.....   | 5                         | 4               | 9            |                           | 1               | 2            |
| Europe and Canada.....               | 3                         | 2               | 2            | 3                         | 6               |              |
| Mexico and United States.....        |                           |                 | 5            | 2                         | 1               | 6            |
| Mexico and South America.....        | 2                         | 4               | 7            | 4                         | 2               | 7            |
| Miscellaneous.....                   | 23                        | 16              | 26           | 14                        | 19              | 22           |
| Totals.....                          | 138                       | 114             | 140          | 96                        | 98              | 115          |
|                                      | Panama Canal net tonnage. |                 |              | Panama Canal net tonnage. |                 |              |
| United States coastwise.....         | 162,572                   | 117,512         | 71,770       | 128,988                   | 89,862          | 61,804       |
| United States and Far East.....      | 128,520                   | 87,553          | 99,017       | 15,008                    | 17,190          | 26,706       |
| Europe and United States.....        | 26,581                    | 21,827          | 38,020       | 33,071                    | 41,867          | 61,259       |
| United States and South America..... | 43,265                    | 31,968          | 51,760       | 28,413                    | 40,011          | 60,290       |
| Europe and South America.....        | 39,648                    | 39,657          | 39,832       | 41,307                    | 46,101          | 72,706       |
| Cristobal and South America.....     | 12,543                    | 15,278          | 14,504       | 12,552                    | 14,312          | 12,542       |
| Europe and Australasia.....          | 54,848                    | 63,962          | 96,952       | 44,483                    | 32,664          | 51,926       |
| United States and Australasia.....   | 28,259                    | 22,048          | 48,203       |                           | 6,216           | 10,726       |
| Europe and Canada.....               | 18,032                    | 11,076          | 12,417       | 15,826                    | 33,689          |              |
| Mexico and United States.....        |                           |                 | 24,114       | 9,854                     | 6,050           | 31,641       |
| Mexico and South America.....        | 10,076                    | 20,573          | 36,994       | 19,788                    | 10,354          | 37,065       |
| Miscellaneous.....                   | 61,697                    | 56,551          | 80,008       | 40,480                    | 60,214          | 72,562       |
| Totals.....                          | 586,041                   | 488,005         | 613,591      | 389,770                   | 398,530         | 499,227      |
|                                      | Tons of cargo carried.    |                 |              | Tons of cargo carried.    |                 |              |
| United States coastwise.....         | 141,648                   | 94,548          | 55,111       | 123,657                   | 84,330          | 52,289       |
| United States and Far East.....      | 192,249                   | 133,506         | 114,059      | 18,913                    | 19,959          | 19,366       |
| Europe and United States.....        | 22,735                    | 6,700           | 25,412       | 54,268                    | 61,122          | 94,803       |
| United States and South America..... | 25,879                    | 23,921          | 51,667       | 29,098                    | 48,333          | 71,187       |
| Europe and South America.....        | 17,545                    | 24,366          | 28,927       | 45,908                    | 57,139          | 85,394       |
| Cristobal and South America.....     | 3,441                     | 3,645           | 4,435        | 3,813                     | 4,723           | 7,809        |
| Europe and Australasia.....          | 35,505                    | 30,294          | 72,339       | 45,210                    | 28,081          | 56,642       |
| United States and Australasia.....   | 29,780                    | 25,535          | 60,188       |                           | 9,200           | 7,120        |
| Europe and Canada.....               | 21,692                    | 9,453           | 5,560        | 24,556                    | 49,181          |              |
| Mexico and United States.....        |                           |                 | 43,105       |                           |                 |              |
| Mexico and South America.....        | 19,100                    | 27,037          | 60,800       |                           |                 |              |
| Miscellaneous.....                   | 72,378                    | 63,820          | 114,946      | 32,624                    | 33,181          | 53,374       |
| Totals.....                          | 581,952                   | 442,825         | 636,579      | 378,137                   | 395,249         | 447,984      |

A further classification of the commercial traffic is shown below:

|                         | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|-------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                         | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels: |                      |                           |              |                      |                           |              |
| Laden.....              | 130                  | 556,753                   | \$558,306.30 | 87                   | 340,727                   | \$341,041.25 |
| Ballast.....            | 8                    | 29,288                    | 22,068.25    | 9                    | 49,043                    | 35,310.96    |
| Totals.....             | 138                  | 586,041                   | 580,374.55   | 96                   | 389,770                   | 376,352.21   |
| Steamships.....         | 133                  | 573,224                   | 567,865.85   | 93                   | 380,979                   | 368,125.96   |
| Motor ships.....        | 1                    | 5,627                     | 5,653.75     | 2                    | 8,719                     | 8,147.50     |
| Motor schooners.....    | 2                    | 508                       | 546.25       | 1                    | 72                        | 78.75        |
| Barge.....              | 1                    | 3,686                     | 2,713.50     |                      |                           |              |
| Bark.....               | 1                    | 2,996                     | 3,595.20     |                      |                           |              |
| Totals.....             | 138                  | 586,041                   | 580,374.55   | 96                   | 389,770                   | 376,352.21   |

#### LATIN-AMERICAN TRAFFIC.

The following tabulations show the number of vessels, tonnage, and tons of cargo carried by vessels engaged in the Latin-American trade, classified by nationality, passing through the Canal during the month of March, 1922:

#### ATLANTIC TO PACIFIC.

| Nationality.                 | No. of ships. | Tonnage.                  |                   |             |         | Tolls.      | Tons of cargo. |
|------------------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                              |               | United States equivalent. | Panama Canal net. | Registered. |         |             |                |
|                              |               |                           |                   | Gross.      | Net.    |             |                |
| British .....                | 19            | 44,249                    | 53,421            | 69,789      | 43,181  | \$54,805.59 | 49,408         |
| Chilean .....                | 2             | 3,072                     | 5,224             | 6,543       | 3,921   | 3,840.00    | 1,436          |
| Dutch .....                  | 1             | 1,605                     | 3,123             | 2,672       | 1,629   | 2,006.25    | 1,044          |
| French .....                 | 2             | 6,244                     | 7,032             | 8,570       | 5,371   | 7,626.45    | 4,612          |
| German .....                 | 4             | 9,019                     | 12,191            | 13,849      | 8,095   | 11,273.75   | 7,579          |
| Italian .....                | 1             | 3,353                     | 4,310             | 5,868       | 3,579   | 4,191.25    | 1,400          |
| Norwegian .....              | 4             | 8,705                     | 10,751            | 14,002      | 8,704   | 10,881.25   | 13,584         |
| Peruvian .....               | 2             | 2,719                     | 5,345             | 9,020       | 4,517   | 3,398.75    | 769            |
| Swedish .....                | 1             | 1,440                     | 1,899             | 2,257       | 1,583   | 1,678.80    | 2,129          |
| United States .....          | 14            | 39,751                    | 49,689            | 63,373      | 40,027  | 45,277.05   | 39,329         |
| Totals, March, 1922 .....    | 50            | 120,157                   | 152,485           | 195,943     | 120,607 | 144,979.14  | 121,290        |
| Totals, February, 1922 ..... | 46            | 105,066                   | 130,801           | 173,971     | 107,759 | 126,473.90  | 107,459        |
| Totals, March, 1921 .....    | 67            | 199,703                   | 240,486           | 315,677     | 200,306 | 247,013.95  | 296,193        |

#### PACIFIC TO ATLANTIC.

| Nationality.                 | No. of ships. | Tonnage.                  |                   |             |         | Tolls.      | Tons of cargo. |
|------------------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                              |               | United States equivalent. | Panama Canal net. | Registered. |         |             |                |
|                              |               |                           |                   | Gross.      | Net.    |             |                |
| British .....                | 18            | 34,841                    | 42,489            | 59,943      | 35,594  | \$39,782.48 | 31,289         |
| Chilean .....                | 2             | 3,072                     | 5,224             | 6,543       | 3,921   | 3,840.00    | 257            |
| Danish .....                 | 1             | 4,223                     | 5,338             | 6,650       | 4,247   | 5,278.75    | 7,511          |
| Dutch .....                  | 3             | 6,576                     | 10,099            | 10,340      | 6,601   | 8,220.00    | 10,229         |
| French .....                 | 1             | 4,288                     | 4,409             | 5,564       | 3,524   | 5,290.80    | 4,749          |
| German .....                 | 1             | 2,957                     | 3,486             | 4,750       | 2,969   | 3,696.25    | 4,591          |
| Norwegian .....              | 4             | 10,570                    | 12,550            | 16,877      | 10,625  | 9,448.93    | 1,525          |
| Peruvian .....               | 3             | 5,409                     | 8,132             | 12,619      | 7,191   | 6,743.15    | 3,557          |
| Swedish .....                | 1             | 1,338                     | 1,431             | 2,241       | 1,595   | 1,672.50    | 2,650          |
| United States .....          | 11            | 28,818                    | 34,286            | 45,602      | 28,434  | 30,749.82   | 20,805         |
| Totals, March, 1922 .....    | 45            | 102,092                   | 127,444           | 171,129     | 104,701 | 114,722.68  | 87,163         |
| Totals, February, 1922 ..... | 48            | 121,170                   | 148,947           | 198,863     | 123,792 | 136,845.45  | 117,747        |
| Totals, March, 1921 .....    | 73            | 223,131                   | 270,585           | 350,342     | 224,200 | 241,370.51  | 200,937        |

## VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships, and other noncargo-carrying vessels, are shown in the following tabulation:

|                    | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |            |
|--------------------|----------------------|---------------------------|------------|----------------------|---------------------------|------------|
|                    | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
| British.....       | 4                    | 13,128                    | \$9,556.25 | 2                    | 9,694                     | \$6,979.68 |
| Norwegian.....     | 1                    | 2,924                     | 2,922.50   | 2                    | 10,094                    | 7,267.68   |
| United States..... | 3                    | 13,236                    | 9,589.50   | 5                    | 29,255                    | 21,063.60  |
| Totals.....        | 8                    | 29,288                    | 22,068.25  | 9                    | 49,043                    | 35,310.96  |

## CLASSIFICATION OF NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of March, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated. This statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Panama Canal; these are not included in the commercial traffic:

|                                               | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |            |
|-----------------------------------------------|----------------------|---------------------------|------------|----------------------|---------------------------|------------|
|                                               | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
| United States naval vessels:                  |                      |                           |            |                      |                           |            |
| Collier.....                                  | 1                    | 2,072                     | \$2,486.40 | 1                    | 7,640                     | \$9,168.00 |
| Tugs.....                                     | 2                    | 1,750                     | 875.00     | 1                    | 1,000                     | 500.00     |
| Subchasers.....                               | 2                    | 122                       | 61.00      | 2                    | 122                       | 61.00      |
| Cruiser.....                                  |                      |                           |            | 1                    | 3,200                     | 1,600.00   |
| Supply ship.....                              |                      |                           |            | 1                    | 6,500                     | 3,250.00   |
| United States Army:                           |                      |                           |            |                      |                           |            |
| Mineplanter.....                              | 1                    | 1,208                     | 604.00     | 1                    | 1,208                     | 604.00     |
| Launches.....                                 | 2                    | 4                         | 3.00       |                      |                           |            |
| United States Government, Treasury Department |                      |                           |            | 1                    | 1,600                     | 800.00     |
| Commercial, for repairs                       | 1                    | 6,970                     | 8,364.00   |                      |                           |            |
| Launches.....                                 |                      |                           |            | 2                    | 5                         | 3.75       |
| Total, noncommercial.....                     | 9                    | 9,046<br>13,080           | 12,393.40  | 10                   | 7,645<br>13,630           | 15,986.75  |

\* Indicates displacement tonnage.

## Cargo passing through the Panama Canal free of tolls:

|                          | Tons.  |
|--------------------------|--------|
| Atlantic to Pacific..... | 14,709 |
| Pacific to Atlantic..... | 1,015  |
| Total.....               | 15,724 |

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of March, 1922, are shown in the following tabulations:

|                                                    | Cristobal. | Balboa. | Total.    |
|----------------------------------------------------|------------|---------|-----------|
| Local cargo arriving..... tons..                   | 49,981     | 11,787  | 61,768    |
| Local cargo shipped..... tons..                    | 2,602      | 133     | 2,735     |
| Transit cargo arriving..... tons..                 | 998,549    | 991,385 | 1,989,934 |
| Transit cargo clearing..... tons..                 | 982,077    | 974,759 | 1,956,836 |
| Cargo received for transshipment..... tons..       | 26,280     | 70      | 26,350    |
| Cargo transshipped..... tons..                     | 25,593     |         | 25,593    |
| Vessels supplied with bunker coal:                 |            |         |           |
| Commercial, other than Panama Railroad.....        | 65         | 8       | 73        |
| Panama Railroad vessels.....                       | 4          |         | 4         |
| United States Army vessels.....                    | 2          | 1       | 3         |
| Total vessels supplied with bunker coal.....       | 71         | 9       | 80        |
| Coal supplied to above vessels:                    |            |         |           |
| Commercial, other than Panama Railroad..... tons.. | 18,711     | 2,647   | 21,358    |
| Panama Railroad vessels..... tons..                | 883        |         | 883       |
| United States Army vessels..... tons..             | 253        | 32      | 285       |
| Total coal supplied to vessels..... tons..         | 19,847     | 2,679   | 24,626    |

|                                                                     | Cristobal. | Balboa. | Total.  |
|---------------------------------------------------------------------|------------|---------|---------|
| Coal issues, miscellaneous:                                         |            |         |         |
| Panama Canal departments..... tons..                                | 516        | 143     | 659     |
| United States Army, excepting vessels..... tons..                   | 360        |         | 360     |
| Individuals and companies..... tons..                               | 246        |         | 246     |
| Total miscellaneous issues..... tons..                              | 1,122      | 143     | 1,265   |
| Total issues from Panama Canal deposits:                            |            |         |         |
| March, 1922..... tons..                                             | 20,969     | 2,822   | 23,791  |
| February, 1922..... tons..                                          | 22,183     | 1,545   | 23,728  |
| March, 1921..... tons..                                             | 37,827     | 2,486   | 40,313  |
| Coal on hand, April 1, 1922..... tons..                             | 131,336    | 24,539  | 155,875 |
| Coal on hand, March 1, 1922..... tons..                             | 132,610    | 27,361  | 159,971 |
| Coal received during March, 1922..... tons..                        | 19,695     |         | 19,695  |
| <i>United States Navy coal account.</i>                             |            |         |         |
| Issued to United States Navy, including vessels..... tons..         | 2,498      | 1,623   | 4,121   |
| Coal on hand, April 1, 1922..... tons..                             | 59,010     | 15,186  | 74,196  |
| Coal on hand, March 1, 1922..... tons..                             | 61,508     | 16,809  | 78,317  |
| Fuel oil issues:                                                    |            |         |         |
| Panama Canal departments..... bbls..                                | 5,409      | 12,391  | 17,800  |
| Panama Railroad..... bbls..                                         | 248        |         | 248     |
| Army and Navy..... bbls..                                           | 1,286      |         | 1,286   |
| Total issues and sales..... bbls..                                  | 6,943      | 12,391  | 19,334  |
| Fuel oil on hand, April 1, 1922..... bbls..                         | 37,453     | 77,380  | 114,833 |
| Fuel oil on hand, March 1, 1922..... bbls..                         | 44,396     | 89,771  | 134,167 |
| Diesel oil issued during March, 1922..... bbls..                    | 20         |         | 20      |
| Diesel oil on hand, April 1, 1922..... bbls..                       | 50,764     | 915     | 51,679  |
| Diesel oil on hand, March 1, 1922..... bbls..                       | 50,784     | 915     | 51,699  |
| Oil pumped for individuals and companies..... bbls..                | 502,327    | 182,611 | 684,938 |
| Miscellaneous transfers..... bbls..                                 |            | 13,219  | 13,219  |
| Total oil handled..... bbls..                                       | 513,641    | 208,223 | 721,864 |
| Admeasurement certificates:                                         |            |         |         |
| United States equivalent issued or made.....                        | 21         | 4       | 25      |
| Measured for Panama Canal net tonnage.....                          | 15         | 8       | 23      |
| United States equivalent or Panama Canal net tonnage corrected..... | 31         | 14      | 45      |
| Services of harbor equipment:                                       |            |         |         |
| Tugs, total operating hours.....                                    | 582        | 238     | 820     |
| Launches, total operating hours.....                                | 1,225      | 1,213   | 2,438   |
| Vessels repaired at Panama Canal shops:                             |            |         |         |
| Commercial.....                                                     | 42         | 18      | 60      |
| United States Government.....                                       | 5          | 7       | 12      |
| Canal equipment.....                                                | 5          | 24      | 29      |
| Vessels dry-docked:                                                 |            |         |         |
| Commercial.....                                                     | 7          | 4       | 11      |
| United States Government.....                                       | 1          | 1       | 2       |
| Canal equipment.....                                                | 2          | 3       | 5       |
| Clearances issued.....                                              | 153        | 142     | 295     |
| Bills of health issued.....                                         | 147        | 144     | 291     |

## ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal:

|                                                                | Port of Cristobal.  |                      |                    | Port of Balboa.     |                      |                    |
|----------------------------------------------------------------|---------------------|----------------------|--------------------|---------------------|----------------------|--------------------|
|                                                                | No.<br>of<br>ships. | Tonnage.             |                    | No.<br>of<br>ships. | Tonnage.             |                    |
|                                                                |                     | Registered<br>gross. | Registered<br>net. |                     | Registered<br>gross. | Registered<br>net. |
| Ships entering.                                                |                     |                      |                    |                     |                      |                    |
| All vessels, including those transiting the Canal.....         | 299                 | 1,592,875            | 999,705            | 244                 | 1,281,552            | 824,360            |
| Vessels entering port but not transiting the Canal.....        | 70                  | 346,624              | 214,521            | 6                   | 52,704               | 46,040             |
| Vessels transiting Canal and handling passengers or cargo..... | 57                  | 242,791              | 146,875            | 46                  | 189,021              | 113,785            |



|                                                                | Port of Cristobal.  |                      |                    | Port of Balboa.     |                      |                    |
|----------------------------------------------------------------|---------------------|----------------------|--------------------|---------------------|----------------------|--------------------|
|                                                                | No.<br>of<br>ships. | Tonnage.             |                    | No.<br>of<br>ships. | Tonnage.             |                    |
|                                                                |                     | Registered<br>gross. | Registered<br>net. |                     | Registered<br>gross. | Registered<br>net. |
| Ships clearing.                                                |                     |                      |                    |                     |                      |                    |
| All vessels, including those transiting the Canal.....         | 288                 | 1,544,897            | 968,708            | 243                 | 1,252,144            | 789,733            |
| Vessels entering port but not transiting the Canal.....        | 63                  | 316,207              | 194,044            | 4                   | 15,304               | 9,240              |
| Vessels transiting Canal and handling passengers or cargo..... | 55                  | 235,626              | 142,445            | 47                  | 203,145              | 122,200            |

## COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of March, 1922:

|                             | Ice.     | Groceries. | Cold storage. | Laundry.   | Miscellaneous. | Total.     |
|-----------------------------|----------|------------|---------------|------------|----------------|------------|
| Sales at Cristobal to—      |          |            |               |            |                |            |
| U. S. Government vessels..  | \$156.50 | \$289.50   | \$2,388.62    |            | \$104.53       | \$2,939.15 |
| Panama Railroad vessels.... | 82.50    | 543.56     | 4,510.80      |            | 628.59         | 5,765.45   |
| Other commercial vessels..  | 1,016.62 | 5,088.59   | 12,118.51     |            | 685.52         | 18,909.24  |
| Totals, March, 1922..       | 1,255.62 | 5,921.65   | 19,017.93     |            | 1,418.64       | 28,613.84  |
| Totals, February, 1922      | 1,442.92 | 2,717.49   | 18,417.18     |            | 1,319.90       | 23,897.49  |
| Totals, March, 1921..       | 2,440.59 | 8,383.26   | 38,970.12     | \$6,274.77 | 2,396.50       | 58,474.24  |
| Sales at Balboa to—         |          |            |               |            |                |            |
| U. S. Government vessels..  | 180.00   | 3,244.21   | 5,024.10      | 8.26       | 294.43         | 8,751.00   |
| Other commercial vessels..  | 511.51   | 2,153.42   | 6,462.57      | 7.88       | 1,736.40       | 10,871.78  |
| Totals, March, 1922..       | 691.51   | 5,397.63   | 11,486.67     | 16.14      | 2,030.83       | 19,622.78  |
| Totals, February, 1922      | 360.86   | 3,148.27   | 12,233.83     |            | 1,041.83       | 16,784.79  |
| Totals, March, 1921..       | 1,644.90 | 10,243.14  | 30,710.56     | 910.67     | 1,967.35       | 45,476.62  |

## MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of March, 1922:

|                                      | At Cristobal. |         |        | At Balboa.   |         |        |
|--------------------------------------|---------------|---------|--------|--------------|---------|--------|
|                                      | First class.  | Others. | Total. | First class. | Others. | Total. |
| Disembarking:                        |               |         |        |              |         |        |
| From Atlantic ports.....             | 1,014         | 898     | 1,912  | 13           |         | 13     |
| From Pacific ports.....              | 149           | 79      | 228    | 268          | 29      | 297    |
| Total disembarking.....              | 1,163         | 977     | 2,140  | 281          | 29      | 310    |
| Embarking:                           |               |         |        |              |         |        |
| For Atlantic ports.....              | 1,199         | 782     | 1,981  | 22           | 1       | 23     |
| For Pacific ports.....               | 182           | 51      | 233    | 101          | 47      | 148    |
| Total embarking.....                 | 1,381         | 833     | 2,214  | 123          | 48      | 171    |
| Remaining on board vessels:          |               |         |        |              |         |        |
| From Atlantic to Pacific ports.....  | 483           | 1,535   | 2,018  | 683          | 171     | 854    |
| From Pacific to Atlantic ports.....  | 506           | 378     | 884    | 652          | 448     | 1,100  |
| From Atlantic to Atlantic ports..... | 1,825         | 85      | 1,910  |              |         |        |
| From Pacific to Pacific ports.....   |               |         |        | 24           | 67      | 91     |
| Total remaining on board.....        | 2,814         | 1,998   | 4,812  | 1,359        | 686     | 2,045  |
| Total passengers arriving.....       | 3,977         | 2,975   | 6,952  | 1,639        | 715     | 2,354  |
| Total passengers departing.....      | 4,195         | 2,831   | 7,026  | 1,523        | 761     | 2,284  |

## LOCK OPERATION.

The following tabulations give the number of lockages, vessels through the locks, and the consumption of water for lockages, for the month of March, 1922, as compared with that of the preceding month and of the corresponding month of last year.

## THE PANAMA CANAL RECORD

## NUMBER OF LOCKAGES.

|                                      | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|--------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                      | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun .....                          | 93          | 130    | 223    | 10             | 2      | 12     | 235          |
| Pedro Miguel .....                   | 93          | 133    | 226    | 12             | 9      | 21     | 247          |
| Miraflores .....                     | 92          | 123    | 215    | 11             | 7      | 18     | 233          |
| Total lockages, March, 1922 .....    | 278         | 386    | 664    | 33             | 18     | 51     | 715          |
| Total lockages, February, 1922 ..... | 279         | 319    | 598    | 13             | 17     | 30     | 628          |
| Total lockages, March, 1921 .....    | 332         | 418    | 750    | 45             | 50     | 95     | 845          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                     | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|-------------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                     | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun .....                         | 97          | 140    | 237    | 18             | 24     | 42     | 279          |
| Pedro Miguel .....                  | 98          | 140    | 238    | 26             | 21     | 47     | 285          |
| Miraflores .....                    | 98          | 140    | 238    | 26             | 22     | 48     | 286          |
| Total vessels, March, 1922 .....    | 293         | 420    | 713    | 70             | 67     | 137    | 850          |
| Total vessels, February, 1922 ..... | 304         | 353    | 657    | 52             | 54     | 106    | 763          |
| Total vessels, March, 1921 .....    | 354         | 449    | 803    | 109            | 111    | 220    | 1,023        |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                             | Gatun. | Pedro Miguel. | Miraflores. |
|-----------------------------|--------|---------------|-------------|
| Army and Navy vessels ..... | 19     | 15            | 15          |
| Canal equipment .....       | 23     | 32            | 33          |
| Total noncommercial .....   | 42     | 47            | 48          |

The total consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                         | Gatun.             | Pedro Miguel.      | Miraflores.        |
|-----------------------------------------|--------------------|--------------------|--------------------|
|                                         | <i>Cubic feet.</i> | <i>Cubic feet.</i> | <i>Cubic feet.</i> |
| Lockages .....                          | 887,670,000        | 813,910,000        | 700,408,000        |
| Leakage .....                           | 20,000,000         | 16,770,000         | 30,000,000         |
| Maintenance .....                       |                    | 1,080,000          |                    |
| Total consumption, March, 1922 .....    | 907,670,000        | 831,680,000        | 730,408,000        |
| Total consumption, February, 1922 ..... | 854,610,000        | 822,000,000        | 722,960,000        |
| Total consumption, March, 1921 .....    | 990,900,000        | 919,450,000        | 908,450,000        |

## METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of March, 1922, are shown in comparative form:

| Rainfall.                                         | March, 1922.   | March, 1921.   | March—Years of record. |                |                |
|---------------------------------------------------|----------------|----------------|------------------------|----------------|----------------|
|                                                   |                |                | Maximum.               | Minimum.       | Mean.          |
|                                                   | <i>Inches.</i> | <i>Inches.</i> | <i>Inches.</i>         | <i>Inches.</i> | <i>Inches.</i> |
| Total for month:                                  |                |                |                        |                |                |
| Pacific Section .....                             | 1.56           | 1.68           | 1.93                   | Trace          | 0.58           |
| Central Section .....                             | .20            | .26            | 4.28                   | .09            | 0.71           |
| Atlantic Section .....                            | 1.50           | 1.43           | 7.65                   | .58            | 1.88           |
| Maximum recorded on any one day .....             | 2.15           | 2.24           | 10.86                  |                |                |
| Gatun Lake watershed .....                        | .52            | .69            | 5.97                   | .24            | .78            |
| Chagres River watershed above Alhajuela .....     | 1.14           | 1.07           | 4.58                   | .22            | 1.03           |
| Maximum recorded for month at any one point ..... | 3.44           | 3.29           | 9.71                   |                |                |
| Minimum recorded for month at any one point ..... |                | .03            |                        |                |                |

<sup>1</sup> This figure represents the maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello on December 28-29, 1909.

NOTE—This report does not include Bocas del Toro.

| Hydrography.                                    | March,<br>1922. | March,<br>1921. | March—Years of record. |                 |                 |
|-------------------------------------------------|-----------------|-----------------|------------------------|-----------------|-----------------|
|                                                 |                 |                 | Maximum.               | Minimum.        | Mean.           |
|                                                 | <i>C. f. s.</i> | <i>C. f. s.</i> | <i>C. f. s.</i>        | <i>C. f. s.</i> | <i>C. f. s.</i> |
| Discharge of Chagres River at Alhajuela.....    | 917             | 550             | 1,625                  | 382             | 739             |
| Maximum momentary discharge for the month.....  | 2,763           | 1,940           | 170,000                | .....           | .....           |
| Gatun Lake watershed total yield.....           | 1,257           | 897             | 1,792                  | 594             | 1,147           |
| Gatun Lake watershed net yield.....             | 190             | —121            | 1,250                  | —385            | 299             |
| Draft on Gatun Lake for lockages and power..... | 2,012           | 2,394           | 2,394                  | 1,148           | 1,714           |

\* This figure represents the maximum momentary discharge on record. Occurred on December 26, 1909.

\* Not including March, 1914.

## SEISMOLOGY.

A slight tremor from a distant disturbance was recorded at Balboa Heights on the evening of the 27th. The epicenter of the disturbance was distant about 2,100 miles and probably in a northerly direction.

## ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

|                                                                               | March, 1922.  | February, 1922. | March, 1921.  |
|-------------------------------------------------------------------------------|---------------|-----------------|---------------|
| Gross output, KWH:                                                            |               |                 |               |
| Gatun hydroelectric station.....                                              | 4,728,100     | 4,241,600       | 6,328,600     |
| Miraflores steam plant.....                                                   | 400           | 10,600          | 12,010        |
| Combined gross output.....                                                    | 4,728,500     | 4,252,200       | 6,340,610     |
| Water consumption..... cubic feet.                                            | 3,687,402,000 | 3,339,809,600   | 4,559,456,500 |
| Oil consumption..... barrels.                                                 | 1,911         | 1,810           | 2,162         |
| Power distributed to consumers..... KWH.                                      | 3,983,218     | 3,631,222       | 5,323,254     |
| Loss of power in plant auxiliaries, transmission and transformation..... KWH. | 745,282       | 620,978         | 1,017,356     |
| Per cent of loss of power to gross output.....                                | 15.76         | 14.60           | 16.04         |

Miscellaneous electrical repairs and installations of electrical equipment were made on 21 vessels during the month. There were 274 work orders issued for work to be performed by the Electrical Division during the month, as compared with 240 for the month of February, 1922.

## SHOP, FOUNDRY, AND DRY-DOCK WORK.

The output of the Mechanical Division in patterns and castings for the month of March, 1922, as compared with the preceding month, was as follows:

|            | March, 1922. |           |         | February, 1922. |           |         |
|------------|--------------|-----------|---------|-----------------|-----------|---------|
|            | Patterns.    | Castings. | Pounds. | Patterns.       | Castings. | Pounds. |
| Iron.....  | 2            | 135       | 7,958   | 7               | 140       | 4,482   |
| Steel..... | 3            | 51        | 21,716  | 2               | 140       | 20,045  |
| Brass..... | 2            | 129       | 2,549   | 3               | 254       | 3,092   |

During the month, miscellaneous repairs were made on 52 vessels at Cristobal and 49 at the Balboa shops. Of the foregoing vessels, 10 were placed in dry dock at Cristobal and 8 at Balboa.

On the *S. S. Garfield*, which was towed up from Colombia after being aground there for some time, the boiler was opened up, cleaned, and scaled. The main refrigerator and auxiliary condensers were opened up, cleaned, and repaired. All tanks were tested and bottom was repaired as directed. The fresh water main circulating engine windlass and capstan were overhauled and adjusted. Other miscellaneous repairs were made, caused by the grounding of the vessel.

The *S. S. Arizonan*, of the Hawaiian-American Line, was docked in a partly loaded condition for repairs to propeller. This steamer made a passage of the Canal and went several hundred miles into the Caribbean when a propeller blade broke off. It was necessary for the vessel to put back for repairs. The Panama Canal dock at Cristobal is too small for the vessel and she had to be brought to Balboa. Her experience is a good example of the advantage to shipping of the rule recently promulgated, allowing vessels to transit the Canal from the Atlantic to Balboa solely for docking purpose without charges other than for lockage and pilotage. The imposition of Canal tolls, which the vessel would have suffered except for the ruling,

would have worked a particular hardship in her case, as the vessel and cargo, consisting of 12,000 tons general cargo, had already paid full tolls for the original passage.

The Chilean battleship *Almirante Latorre* was docked, cleaned, and painted. This vessel was docked at Balboa about 14 months ago and had not been docked in the interim. The condition of the Navy standard bottom paint manufactured at Balboa and applied on her previous visit was very gratifying considering her long stay out of dry dock. This vessel is one of the largest battleships afloat and is the largest ship docked at Balboa with 2 exceptions. Not only is the Balboa dry dock large enough to take much larger vessels, but her docking demonstrates that the supply of blocking and other dry-dock accessories kept constantly on hand at the Balboa dock and the docking personnel are adequate for any conceivable demand.

Work was begun on the conversion of the Marine Division wrecking tug *Favorite* into an oil burner.

Frames and plating were put under way for widening the dredges *Gamboa* and *Paraiso* to approximately the width of the *Cascadas*. This widening of the hull is being carried out in order to do away with the danger of overturning to which these dredges are liable at the present under certain adverse conditions. The extension of 5 feet to the hull on each side will be made by constructing the same in the shop as a sort of box, open on one side, after which the dredge will be put into dry dock, the extension lowered into the dock, pushed into place, and connected with the hull.

Conditions in the Balboa shops so far as work ahead is concerned showed a slight general improvement.

#### DREDGING DIVISION.

Cucaracha, Culebra, and Barge Repair slides have shown no movement during the month and there was no interference with Canal traffic. The total excavation for the month of March, 1922, including earth and rock, was 254,750 cubic yards, as follows:

| Cubic yards. | Classified as— |        | Character of work. | Stations.                                                       | Equipment        |
|--------------|----------------|--------|--------------------|-----------------------------------------------------------------|------------------|
|              | Earth.         | Rock.  |                    |                                                                 |                  |
| 50,950       | 20,350         | 30,600 | Maintenance.....   | <i>Gaillard Cut, West Culebra.</i><br>1757-00 to 1805-00 W..... | <i>Paraiso.</i>  |
| 41,300       | 16,500         | 24,800 | Maintenance.....   | <i>Gaillard Cut, East Culebra.</i><br>1778-00 to 1805-00 E..... | <i>Paraiso.</i>  |
| 4,500        | 3,150          | 1,350  | Maintenance.....   | <i>West Barge Repair.</i><br>1747-00 to 1745-00 W.....          | <i>Paraiso.</i>  |
| 38,950       | 15,000         | 23,950 | Maintenance.....   | <i>Pacific Entrance.</i><br>2160-00 to 2200-00 W.....           | <i>Cascadas.</i> |
| 4,650        | .....          | 4,650  | Construction.....  | 2160-00 to 2200-00 W.....                                       | <i>Cascadas.</i> |
| 39,600       | 39,600         | .....  | Maintenance.....   | 2064-50 to 2075-00 W.....                                       | <i>No. 84.</i>   |
| 74,800       | 74,800         | .....  | Maintenance.....   | 2291-80 to 2314-00 E.....                                       | <i>No. 84.</i>   |
| 254,750      | 169,400        | 85,350 |                    |                                                                 |                  |

The material excavated at the various stations was disposed of as follows:

|                                    | Cubic yards. |
|------------------------------------|--------------|
| Dumped north of Gamboa.....        | 96,750       |
| Dumped on flats west of Canal..... | 74,800       |
| Dumped on flats east of Canal..... | 39,600       |
| Dumped at sea.....                 | 43,600       |
| Total.....                         | 254,750      |

#### MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form:

|                                    | March, 1922. | February, 1922. | March, 1921. |
|------------------------------------|--------------|-----------------|--------------|
| Pumping stations.....              | 686,383,250  | 609,793,750     | 834,072,750  |
| Filtration plants.....             | 402,585,000  | 358,774,000     | 511,274,000  |
| Water consumed by Panama City..... | 82,952,000   | 75,265,000      | 102,527,000  |
| Water consumed by Colon.....       | 58,020,500   | 53,526,000      | 58,570,500   |
| Sales of water to vessels.....     | 9,470,092    | 9,597,295       | 11,923,740   |



Construction work, as itemized below, was under progress during the month of March, 1922, with completion on February 28 and March 31 as shown:

|                                                                      | Per cent completed. |           |
|----------------------------------------------------------------------|---------------------|-----------|
|                                                                      | Feb. 28.            | March 31. |
| Fill, France Field.....                                              | 99.5                | 99.5      |
| Grading of Silver City, Mount Hope.....                              | 98                  | 100       |
| Construction of landing field at Naval Air Station, Coco Solo.....   | 97                  | 98        |
| Sea wall and dry fill, Coco Solo.....                                | 75                  | 90        |
| Construction of new concrete sea wall, new Santo Tomas Hospital..... | 98.5                | 100       |
| Extension of roads, new Santo Tomas Hospital.....                    | 60                  | 61        |
| Foundation of statue of Balboa.....                                  | 79                  | 79        |
| Extension of sea wall, new Santo Tomas Hospital.....                 | 97                  | 99        |
| Installation of electric duct line, new Santo Tomas Hospital.....    | 65                  | 65        |

## OCCUPANTS OF QUARTERS.

The occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                             | March 31, 1922. |        |           | Total occupants. |                 |              |
|-----------------------------|-----------------|--------|-----------|------------------|-----------------|--------------|
|                             | Men.            | Women. | Children. | March, 1922.     | February, 1922. | March, 1921. |
| Americans.....              | 2,346           | 1,957  | 2,224     | 6,527            | 6,529           | 8,290        |
| Europeans.....              | 104             | 41     | 91        | 236              | 229             | 245          |
| West Indians.....           | 4,060           | 2,489  | 5,571     | 12,120           | 12,128          | 11,666       |
| Totals, March, 1922.....    | 6,510           | 4,487  | 7,886     | 18,883           |                 |              |
| Totals, February, 1922..... | 6,625           | 4,406  | 7,855     |                  | 18,886          |              |
| Totals, March, 1921.....    | 8,452           | 4,581  | 7,168     |                  |                 | 20,201       |

## WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of March 15, 1922, by departments, together with a comparison of the working force for the preceding month and that of March, 1921.

|                                  | Employees as of March 15, 1922. |         | Total employees. |                 |              |
|----------------------------------|---------------------------------|---------|------------------|-----------------|--------------|
|                                  | Gold.                           | Silver. | March, 1922.     | February, 1922. | March, 1921. |
| Operation and Maintenance:       |                                 |         |                  |                 |              |
| Office.....                      | 28                              | 56      | 84               | 84              | 73           |
| Electrical.....                  | 146                             | 165     | 311              | 302             | 478          |
| Municipal Engineering.....       | 74                              | 526     | 600              | 621             | 886          |
| Lock Operation.....              | 186                             | 663     | 849              | 858             | 893          |
| Dredging.....                    | 134                             | 623     | 757              | 749             | 1,271        |
| Mechanical.....                  | 333                             | 505     | 838              | 913             | 2,253        |
| Marine.....                      | 157                             | 354     | 511              | 525             | 780          |
| Fortifications.....              | 44                              | 297     | 341              | 301             | 318          |
| Totals.....                      | 1,102                           | 3,189   | 4,291            | 4,353           | 6,952        |
| Supply Department:               |                                 |         |                  |                 |              |
| Transportation.....              | 31                              | 142     | 173              | 177             |              |
| Quartermaster.....               | 131                             | 798     | 929              | 926             | 2,214        |
| Subsistence.....                 | 15                              | 211     | 226              | 224             | 444          |
| Commissary.....                  | 177                             | 773     | 950              | 957             | 1,752        |
| Cattle Industry—Plantations..... | 10                              | 346     | 356              | 304             | 428          |
| Hotel Washington.....            | 8                               | 86      | 94               | 93              | 111          |
| Totals.....                      | 372                             | 2,356   | 2,728            | 2,681           | 4,949        |
| Accounting Department.....       | 174                             | 7       | 181              | 184             | 252          |
| Health Department.....           | 218                             | 743     | 961              | 954             | 1,171        |
| Executive Department.....        | 498                             | 241     | 739              | 737             | 828          |
| Totals.....                      | 890                             | 991     | 1,881            | 1,875           | 2,251        |
| Panama Railroad:                 |                                 |         |                  |                 |              |
| Superintendent.....              | 47                              | 250     | 297              | 299             | 558          |
| Transportation.....              | 69                              | 106     | 175              | 177             | 254          |

\* This includes 514 employees of the former Building Division.

|                                      | Employees as of<br>March 15, 1922. |         | Total employees. |                    |                 |
|--------------------------------------|------------------------------------|---------|------------------|--------------------|-----------------|
|                                      | Gold.                              | Silver. | March,<br>1922.  | February,<br>1922. | March,<br>1921. |
| Panama Railroad—Continued.           |                                    |         |                  |                    |                 |
| Receiving and Forwarding Agency..... | 62                                 | 549     | 611              | 852                | 698             |
| Coaling Stations.....                | 86                                 | 499     | 585              | 558                | 1,020           |
| Totals.....                          | 264                                | 1,404   | 1,668            | 1,886              | 2,530           |
| Grand totals, March, 1922.....       | 2,628                              | 7,940   | 10,568           |                    |                 |
| Grand totals, February, 1922.....    | 2,640                              | 8,155   |                  | 10,795             |                 |
| Grand totals, March, 1921.....       | 3,991                              | 12,691  |                  |                    | 16,682          |
| Grand totals, March, 1920.....       | 4,575                              | 17,660  | 22,235           |                    |                 |

\* March, 1920.

The present total force is 47.5 per cent of the total force employed 2 years ago.

#### SCHOOLS.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone, for the month of March, 1922:

|                                      | White.  | Colored. | Total.  |
|--------------------------------------|---------|----------|---------|
| Gross enrollment.....                | 2,030   | 1,795    | 3,825   |
| Net enrollment.....                  | 1,864   | 1,747    | 3,611   |
| Average daily attendance.....        | 1,537.6 | 1,327.1  | 2,864.7 |
| Pupils neither absent nor tardy..... | 875     | 514      | 1,389   |
| Number of cases of tardiness.....    | 295     | 58       | 353     |
| Number of teachers.....              | 77      | 32       | 109     |

#### RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, and cash sales from stock, are shown below in comparative form:

|                                                                         | March,<br>1922. | February,<br>1922. | March,<br>1921. |
|-------------------------------------------------------------------------|-----------------|--------------------|-----------------|
| Material received on United States requisitions, chargeable as follows: |                 |                    |                 |
| Operation and Maintenance.....                                          | \$92,935.36     | \$113,754.54       | \$708,839.37    |
| Construction and equipment.....                                         |                 |                    | 9,257.33        |
| Miscellaneous.....                                                      | 1,702.52        | 820.74             | 15,277.66       |
| Totals.....                                                             | 94,637.88       | 114,575.28         | 733,374.36      |
| Cash sales on the Isthmus:                                              |                 |                    |                 |
| Stock.....                                                              | 30,056.34       | 28,924.32          | 36,911.32       |
| Fuel oil (including sales to ships).....                                | 67.62           | 106.56             | 2,032.80        |
| Scrap.....                                                              | 902.88          | 685.83             | 1,342.90        |
| Obsolete and second-hand material.....                                  | 4,156.89        | 1,809.72           | 1,014.87        |
| Totals.....                                                             | 35,183.73       | 31,526.43          | 41,301.89       |
| Sales to steamships from storehouses:                                   |                 |                    |                 |
| Miscellaneous stock items.....                                          | 9,240.67        | 9,078.06           | 17,759.25       |
| Fuel oil.....                                                           | 67.62           | 47.64              | 2,032.80        |
| Totals.....                                                             | 9,308.29        | 9,125.70           | 19,792.05       |

Respectfully,

JAY J. MORROW,

Governor.

#### Postal and Cable Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama," in the United States, "Pancanal Washington."

### Increasing Shipments from the Pacific Coast.

Lumber shipments from the Pacific coast of the United States through the Panama Canal were heavier in March, 1922, than in any previous month for which accurate statistics are available. They aggregated 67,064 tons.

A comparison of the tonnage of certain typical Pacific coast products shipped through the Canal during the first quarter of 1921 and the first quarter of 1922 indicates how rapidly the shippers of this section are turning to the water route:

| Commodity.           | First quarter,<br>1921. | First quarter,<br>1922. |
|----------------------|-------------------------|-------------------------|
|                      | <i>Tons.</i>            | <i>Tons.</i>            |
| Fresh fruit.....     | 1,936                   | 12,387                  |
| Canned fruit.....    | 7,499                   | 35,177                  |
| Dried fruit.....     | 1,462                   | 13,740                  |
| Canned fish.....     | 7,623                   | 28,106                  |
| Lumber.....          | 96,673                  | 182,421                 |
| Lubricating oil..... |                         | 18,497                  |
| Wool.....            | 858                     | 15,280                  |

There were heavy shipments of wheat and barley during the past year, but as these products are shipped for the most part during the late summer and fall a comparison of shipments during the first quarter of the year would be of little value.

### Diminished Traffic and Tolls.

During the first half of the current fiscal year, July to December, 1921, the aggregate net tonnage of vessels using the Panama Canal and the tolls collected were almost exactly the same as during the corresponding half of the previous fiscal year, the difference in each case being less than half of one per cent. But the third quarter of the fiscal year (January to March, inclusive, 1922) shows a marked decline of traffic and revenue, as follows:

| Period.                     | No. of ships. | P. C. net tons. | Cargo tons. | Tolls.         |
|-----------------------------|---------------|-----------------|-------------|----------------|
| January to March, 1921..... | 775           | 3,123,979       | 3,314,520   | \$3,118,806.51 |
| January to March, 1922..... | 656           | 2,708,862       | 2,605,461   | 2,670,760.49   |
| Decrease.....               | 119           | 415,117         | 709,059     | 448,046.02     |
| Percentage of decrease..... | 15.4          | 13.3            | 21.4        | 14.4           |

Except through abnormal growth in the remaining months, the business of the complete fiscal year 1922, ending June 30, will be materially less than in the fiscal year 1921, when 2,892 ships made the transit. It will apparently be about the same as for the calendar year 1921, in which the commercial vessels using the Canal numbered 2,783.

### Correction.—Agency for United States Lines.

A notice, published in THE PANAMA CANAL RECORD of March 22, stated that the Panama Railroad Company had accepted the agency of the United States Mail Steamship Company, Inc., for the sale of passage tickets over the line of that company between the United States and Europe.

Advice has been received from the United States Lines that though the tickets forwarded bore the name of United States Mail Steamship Company, that company is in bankruptcy, and its ships were turned back to the Shipping Board, which set up a new unit, known as the United States Lines, and it is the United States Lines for which the Panama Railroad Company is agent.

## Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, March, 1922.\*

| From—                 | NORTH AMERICA.             |                            |             |                       |              |                  |         |  |  |  | EUROPE.               |                |          |          |         |          |          |        |        |                                      | Grand totals. | East coast of South America. | Per cent of total cargo. |                      |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
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|                       | UNITED STATES.             |                            |             |                       |              | CANADA.          |         |  |  |  | Total, North America. | British Isles. | Belgium. | Denmark. | France. | Germany. | Holland. | Italy. | Spain. | Azores and West Indies. <sup>2</sup> |               |                              |                          | Europe. <sup>2</sup> | Total, Europe. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
|                       | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports. | Total, United States. | West Indies. | Cristobal, C. Z. | Canada. |  |  |  |                       |                |          |          |         |          |          |        |        |                                      |               |                              |                          |                      |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
|                       |                            |                            |             |                       |              |                  |         |  |  |  |                       |                |          |          |         |          |          |        |        |                                      |               |                              |                          |                      |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
| <b>SOUTH AMERICA:</b> |                            |                            |             |                       |              |                  |         |  |  |  |                       |                |          |          |         |          |          |        |        |                                      |               |                              |                          |                      |                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | </ |

\* Figures represent tons of 2,240 pounds.

\* General cargo not routed so as to allow segregation between definite ports.

\* For orders.



Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, March, 1922.<sup>1</sup>

| FROM—                           | SOUTH AMERICA. |           |          |       |                                           | NORTH AMERICA.        |                              |                       |                                |               | ASIA.   |                       |         |         |              | AUSTRALASIA.           |              |            |              |              | Grand totals. | Per cent of total cargo. |                     |
|---------------------------------|----------------|-----------|----------|-------|-------------------------------------------|-----------------------|------------------------------|-----------------------|--------------------------------|---------------|---------|-----------------------|---------|---------|--------------|------------------------|--------------|------------|--------------|--------------|---------------|--------------------------|---------------------|
|                                 | Chile.         | Colombia. | Ecuador. | Peru. | West coast of South America. <sup>2</sup> | Total, South America. | West coast of United States. | West coast of Canada. | West coast of Central America. | Balboa, C. Z. | Mexico. | Total, North America. | China.  | Japan.  | Philippines. | Far East. <sup>2</sup> | Total, Asia. | Australia. | New Zealand. | Australasia. |               |                          | Total, Australasia. |
| UNITED STATES:                  |                |           |          |       |                                           |                       |                              |                       |                                |               |         |                       |         |         |              |                        |              |            |              |              |               |                          |                     |
| North Atlantic ports.           | 4,479          | 256       | 2,386    | 5,226 | 12,347                                    | 106,955               | 5,000                        |                       |                                |               | 168     | 112,123               | 34,032  | 103,455 | 1,293        | 3,028                  | 141,808      | 10,010     | 12,420       | 29,030       | 1,206         | 296,574                  | 50.96               |
| South Atlantic ports.           | 11,403         |           |          |       | 11,403                                    | 9,231                 |                              |                       |                                |               | 33      | 9,204                 | 2,963   | 4,826   | 150          | 543                    | 8,482        |            |              |              |               | 29,149                   | 5.01                |
| Gulf ports                      | 799            |           |          | 1,330 | 2,129                                     | 31,364                |                              |                       | 8,000                          |               |         | 39,864                | 9,222   | 31,640  |              |                        | 40,862       |            |              |              |               | 82,855                   | 14.21               |
| Total, United States.           | 16,681         | 256       | 2,386    | 6,556 | 25,879                                    | 148,050               | 5,000                        |                       | 8,000                          |               | 201     | 161,251               | 46,217  | 139,921 | 1,443        | 3,571                  | 191,152      | 10,010     | 12,420       | 29,030       | 1,206         | 408,578                  | 70.21               |
| East coast of Mexico.           | 19,100         |           |          |       | 19,100                                    |                       |                              |                       |                                |               | 3,800   | 3,800                 |         | 8,682   |              |                        | 8,682        |            |              |              |               | 31,582                   | 5.43                |
| Atl. terminus, Cristobal, C. Z. | 1,436          | 52        | 1,580    | 373   | 3,441                                     | 1,826                 |                              | 1,481                 |                                |               | 641     | 3,948                 |         |         |              |                        | 19,159       |            |              |              |               | 7,389                    | 1.27                |
| West Indies.                    |                |           |          |       |                                           |                       |                              | 11,567                |                                |               |         | 11,567                | 5,000   | 14,159  |              |                        |              | 750        |              |              |               | 30,726                   | 5.28                |
| East coast of Canada.           |                |           |          |       |                                           |                       |                              |                       |                                |               |         |                       |         |         |              |                        |              |            |              |              |               | 750                      | 0.13                |
| Total, North America.           | 37,217         | 308       | 3,966    | 6,929 | 48,420                                    | 149,876               | 16,567                       | 1,481                 | 8,000                          | 4,642         | 180,566 | 51,217                | 162,762 | 1,443   | 3,571        | 218,993                | 17,360       | 12,420     | 29,780       | 1,206        | 479,025       | 82.32                    |                     |
| EUROPE:                         |                |           |          |       |                                           |                       |                              |                       |                                |               |         |                       |         |         |              |                        |              |            |              |              |               |                          |                     |
| Belgium                         | 500            |           |          | 300   | 800                                       | 10,183                | 600                          |                       |                                |               |         | 10,783                |         |         |              |                        | 20           |            |              |              |               | 11,583                   | 1.99                |
| British Isles.                  | 4,637          |           |          |       | 6,246                                     | 7,669                 | 11,989                       |                       |                                |               |         | 19,658                |         |         |              |                        |              |            |              |              |               | 66,262                   | 11.39               |
| France.                         |                |           | 812      |       | 812                                       | 4,862                 | 5,446                        |                       |                                |               |         | 10,308                |         |         |              |                        |              |            |              |              |               | 11,120                   | 1.93                |
| Germany                         | 5,444          | 2         | 170      | 537   | 6,153                                     | 1,424                 |                              | 1,486                 | 90                             |               |         | 3,000                 |         |         |              |                        |              |            |              |              |               | 9,153                    | 1.57                |
| Holland                         |                |           |          | 894   | 894                                       | 1,419                 | 6                            |                       |                                |               |         | 1,425                 |         |         |              |                        |              |            |              |              |               | 2,319                    | 0.38                |
| Italy.                          | 1,077          |           | 25       | 1     | 1,400                                     | 56                    |                              |                       |                                | 180           |         | 56                    |         |         |              |                        |              |            |              |              |               | 1,456                    | 0.25                |
| Norway                          |                |           |          |       | 297                                       | 500                   |                              |                       |                                |               |         | 680                   |         |         |              |                        |              |            |              |              |               | 680                      | 0.11                |
| Total, Europe.                  | 11,658         | 2         | 1,007    | 1,732 | 19,006                                    | 26,113                | 18,041                       | 1,486                 | 270                            |               | 45,910  |                       |         |         |              | 20                     |              |            |              |              |               | 35,505                   | 4.832               |
| East coast of South America.    |                | 279       |          |       | 279                                       | 75                    |                              |                       |                                |               |         | 75                    |         |         |              |                        |              |            |              |              |               |                          |                     |
| Grand totals                    | 48,875         | 589       | 4,973    | 8,661 | 1,906                                     | 65,004                | 176,064                      | 34,608                | 2,967                          | 8,270         | 4,642   | 226,551               | 51,217  | 162,762 | 1,443        | 3,591                  | 219,013      | 19,144     | 46,141       |              |               | 65,285                   | 6,099               |
| Per cent of total cargo:        |                |           |          |       |                                           |                       |                              |                       |                                |               |         |                       |         |         |              |                        |              |            |              |              |               |                          |                     |
| March, 1922.                    | 8.40           | 0.10      | 0.85     | 1.49  | 0.33                                      | 11.17                 | 30.26                        | 5.94                  | 0.51                           | 1.42          | 0.80    | 38.93                 | 8.80    | 27.97   | 0.25         | 0.62                   | 37.64        | 3.29       | 7.93         |              |               | 11.22                    | 1.04                |
| February, 1922.                 | 11.20          | 0.30      | 2.70     | 2.60  | 0.60                                      | 17.60                 | 29.40                        | 1.60                  | 0.60                           | 1.50          |         | 33.20                 | 4.50    | 28.20   | 1.20         | 0.80                   | 34.80        | 3.60       | 10.80        |              |               | 14.40                    |                     |
| March, 1921.                    | 16.40          | 0.10      | 0.60     | 1.50  | 4.80                                      | 23.40                 | 18.00                        | 4.40                  | 0.40                           | 6.30          | 1.50    | 30.60                 | 5.90    | 9.40    | 1.30         | 6.70                   | 23.30        | 5.80       | 11.40        | 5.5          |               | 22.70                    |                     |

<sup>1</sup> Figures represent tons of 2,240 pounds.<sup>2</sup> General cargo not routed so as to allow segregation between definite ports.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 22, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.            | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line.                            | Length. | Beam. | Salt water draft. | From—         | For—          | Cargo.         |       | Panama Canal tonnage. |       |
|------------------|------------------|-------|----------------|-------|--------------------|-------|--------------|----------------------------------|---------|-------|-------------------|---------------|---------------|----------------|-------|-----------------------|-------|
|                  | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |                                  |         |       |                   |               |               | Nature.        | Tons. | Gross.                | Net.  |
| Kentuckian       | 15               | 21 00 | 16             | 6 25  | 16                 | 15 26 | American     | American-Hawaiian Line           | 414.5   | 53.7  | 23.0              | Boston        | Seattle       | General        | 3,300 | 7,040                 | 4,941 |
| Nordkap          | 16               | 6 37  | 16             | 7 25  | 16                 | 17 50 | Danish       | Peter Brown                      | 380     | 44.0  | 23.0              | Norfolk       | Valparaiso    | Coal           | 4,517 | 2,755                 | 2,719 |
| Bowes Castle     | 16               | 10 18 | 16             | 10 45 | 16                 | 17 34 | British      | James Chambers & Co.             | 415     | 56.1  | 27.0              | New York      | Yokohama      | General        | 7,885 | 6,073                 | 4,608 |
| Benjamin         | 16               | 10 45 | 16             | 11 05 | 16                 | 19 33 | American     | Standard Oil Co.                 | 411.6   | 53.2  | 17.0              | New York      | Talara        | Ballast        |       | 6,177                 | 4,241 |
| Brewster         | 16               | 1 22  | 16             | 11 45 | 16                 | 19 15 | British      | Ellerman Lines, Ltd.             | 361.3   | 54.0  | 27.6              | New York      | Yokohama      | General        | 7,081 | 7,133                 | 5,418 |
| City of Glasgow  | 15               | 6 22  | 16             | 13 01 | 16                 | 20 06 | Dutch        | Royal Netherlands W. I. Mail     | 369.0   | 56.0  | 19.6              | Hamburg       | Corral        | General        | 2,340 | 5,362                 | 4,393 |
| Delft            | 15               | 6 22  | 16             | 13 01 | 16                 | 20 06 | American     | United States Navy               |         |       |                   | Cristobal     | Balboa        | General        | 1,985 | 9,936                 | 6,561 |
| Scota            | 16               | 7 28  | 16             | 7 28  | 16                 | 15 25 | British      | Pacific Steam Navigation Co.     | 485.0   | 58.0  | 22.10             | Liverpool     | Valparaiso    | General        | 1,000 | 1,936                 | 1,304 |
| Orta             | 16               | 13 15 | 17             | 6 10  | 17                 | 12 37 | British      | Atlantic Refining Co.            | 265.9   | 39.9  | 11.6              | Philadelphia  | Balboa        | Gasoline       |       |                       |       |
| R. D. Leonard    | 16               | 7 15  | 17             | 8 22  | 17                 | 16 37 | American     |                                  |         |       |                   |               |               |                |       |                       |       |
| Gen. O. H. Ernst | 14               | 12 35 | 17             | 11 45 | 17                 | 17 35 | American     | Panama Railroad Steamship Line   | 356.4   | 45.3  | 17.10             | New York      | Guayaquil     | General        | 641   | 4,503                 | 2,764 |
| Killing          | 18               | 3 56  | 18             | 6 23  | 18                 | 12 14 | British      | Lindsay, Swann Hunter            | 172.0   | 30.0  | 13.0              | Kingston      | Balboa        | Ballast        |       | 575                   | 152   |
| Laura C. Hall    | 16               | 18 50 | 18             | 6 10  | 18                 | 15 40 | British      | Pacific Metals Corporation       | 81.0    | 26.0  | 9.0               | Cristobal     | Buena Ventura | General        | 15    | 132                   | 72    |
| West Katan       | 17               | 22 10 | 18             | 6 50  | 18                 | 15 45 | American     | Swayne & Hoyt (S. B.)            | 410.0   | 54.0  | 25.0              | Para          | Los Angeles   | General        | 6,748 | 6,373                 | 4,901 |
| Rhodophis        | 18               | 7 29  | 18             | 8 00  | 18                 | 16 48 | German       | Kosmos Line                      | 435.1   | 53.1  | 25.0              | Hamburg       | Guayaquil     | General        | 4,360 | 7,525                 | 5,154 |
| Jamaica          | 16               | 9 17  | 18             | 9 22  | 18                 | 17 32 | British      | Pacific Steam Navigation Co.     | 220.0   | 34.0  | 15.2              | Pto. Colombia | Tumaco        | General, salt  | 799   | 1,187                 | 622   |
| Thorgerd         | 18               | 9 30  | 18             | 10 15 | 18                 | 17 47 | Norwegian    | B. Bjornstad & Co.               | 251.0   | 43.6  | 13.0              | Batimore      | Corinto       | Ballast        |       | 2,706                 | 1,762 |
| Welsh Prince     | 18               | 13 57 | 19             | 6 20  | 19                 | 13 29 | British      | Furness Withy & Co.              | 410.0   | 52.0  | 24.0              | Batimore      | Kobe          | Steel          | 3,646 | 5,926                 | 4,257 |
| Santa Elisa      | 18               | 15 57 | 19             | 7 26  | 19                 | 14 17 | American     | Garrison Line                    | 360.3   | 51.7  | 23.3              | New York      | Talcahuano    | General        | 2,462 | 5,957                 | 4,325 |
| Astronomer       | 18               | 8 38  | 19             | 8 04  | 19                 | 16 35 | British      | United States Steel Products Co. | 482.0   | 58.0  | 21.7              | Glasgow       | Los Angeles   | General        | 3,900 | 8,898                 | 6,334 |
| Steel Worker     | 18               | 21 15 | 19             | 8 50  | 19                 | 17 30 | American     | Chilean Line                     | 424.2   | 56.0  | 26.4              | Batimore      | Los Angeles   | General        | 8,400 | 7,611                 | 5,497 |
| Aysen            | 16               | 16 10 | 19             | 10 11 | 19                 | 18 34 | Chilean      | Thor Thoresen                    | 379.6   | 44.3  | 22.11             | Cristobal     | Valparaiso    | General        | 940   | 4,535                 | 3,068 |
| Granfos          | 19               | 6 03  | 19             | 11 46 | 19                 | 18 38 | Norwegian    | Hakon Wallem                     | 234.2   | 39.1  | 13.3              | Port Arthur   | Buena Ventura | General        | 44    | 2,036                 | 1,457 |
| Storviken        | 19               | 11 42 | 19             | 12 00 | 19                 | 19 32 | Norwegian    | Kawasaki Kisen Kaisha            | 380.0   | 53.0  | 24.6              | Galveston     | Hakodate      | Case oil       | 6,212 | 5,330                 | 3,568 |
| Baltimore Maru   | 19               | 2 55  | 19             | 12 45 | 19                 | 20 26 | Japanese     |                                  | 405.0   | 53.0  | 28.7              |               | Yokohama      | General        | 7,589 | 7,025                 | 5,055 |
| City of Adelaide | 19               | 6 38  | 19             | 13 45 | 19                 | 21 31 | British      | Ellerman Lines, Ltd.             | 433.0   | 57.0  | 26.9              | New York      | Brisbane      | General        | 7,000 | 8,547                 | 6,046 |
| Rio Gatan        | 18               | 13 52 | 19             | 6 10  | 20                 | 15 20 | American     | A. R. Lockhardt                  | 390.0   | 54.0  | 23.11             | New York      | Gatun Lake    | General (Navy) | 5,317 | 8                     | 7     |
| Vega             | 19               | 13 52 | 20             | 7 42  | 20                 | 16 25 | American     | United States Navy               | 385.0   | 51.0  | 27.0              | Hampton Rds   | San Francisco | General        | 7,221 | 5,956                 | 4,460 |
| Tokufuku Maru    | 19               | 16 51 | 20             | 7 42  | 20                 | 16 15 | Japanese     | Kokusai Kisen Kaisha             |         |       |                   | New York      | Yokohama      | General, steel |       |                       |       |
| Walter A.        | 19               | 20 40 | 20             | 8 48  | 20                 | 17 09 | American     | Luckenbach Line                  | 446.5   | 56.1  | 28.6              | New York      | Seattle       | General        | 8,400 | 8,785                 | 6,567 |
| Lukenbach        | 20               | 7 00  | 20             | 10 07 | 20                 | 17 32 | American     | Barber Line                      | 376.0   | 51.0  | 23.0              | New York      | Seattle       | General        | 6,033 | 5,158                 | 3,813 |
| Doehna           | 20               | 7 00  | 20             | 10 07 | 20                 | 17 32 | American     |                                  |         |       |                   |               |               |                |       |                       |       |
| Johanne          | 21               | 6 26  | 21             | 6 45  | 21                 | 15 05 | Norwegian    | Olaf Oorvig                      | 314.0   | 46.0  | 17.0              | Norfolk       | Punta Arenas  | Coal           | 2,182 | 3,051                 | 2,113 |
| Dybwad           |                  |       |                |       |                    |       |              |                                  |         |       |                   |               |               |                |       |                       |       |

Motor schooner.

Tug.

Launch.

Transport.

| Cruiser.                 |    |    |    |    |    |    |    |    |    | Motor ship. |                                     |       |      |    |    |    |           |                |               | THROUGH THE CANAL—PACIFIC TO ATLANTIC. |        |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------|----|----|----|----|----|----|----|----|----|-------------|-------------------------------------|-------|------|----|----|----|-----------|----------------|---------------|----------------------------------------|--------|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Cleveland <sup>6</sup> . | 20 | 8  | 23 | 21 | 7  | 40 | 21 | 14 | 40 | American    | United States Navy.                 | 308   | 0    | 36 | 0  | 16 | 6         | Key West.      | Balboa        | 2,211                                  | 2,832  | 1,903 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Santa Fe.                | 20 | 21 | 50 | 21 | 11 | 52 | 21 | 18 | 08 | American    | Alaska Line.                        | 398   | 6    | 40 | 0  | 20 | 0         | New York       | Salaverry     | 5,178                                  | 1,538  | 3,381 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Albatross.               | 20 | 21 | 30 | 22 | 6  | 20 | 22 | 13 | 16 | American    | Glaska Steamship Co.                | 343   | 9    | 40 | 0  | 25 | 0         | New York       | Los Angeles.  | 3,064                                  | 8,019  | 6,577 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| D. G. Stoddell.          | 21 | 03 | 22 | 7  | 25 | 22 | 15 | 37 | 23 | American    | Standard Oil Co.                    | 433   | 3    | 58 | 0  | 25 | 0         | New York       | San Francisco | 3,064                                  | 8,019  | 6,577 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Donne.                   | 22 | 7  | 00 | 22 | 7  | 55 | 22 | 14 | 31 | British     | Oceanic Steam Navigation Co.        | 506   | 0    | 53 | 0  | 28 | 0         | London.        | Wellington.   | 3,200                                  | 12,872 | 9,377 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Kingston.                | 22 | 7  | 00 | 22 | 8  | 20 | 22 | 17 | 36 | British     | Britannia Steamship Co.             | 412   | 3    | 53 | 0  | 28 | 0         | New York       | Yokohama.     | 8,344                                  | 7,458  | 5,131 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Trinidad Maru.           | 22 | 12 | 52 | 22 | 9  | 25 | 22 | 16 | 45 | Norwegian.  | Nippon Yusen Kaisha.                | 445   | 0    | 58 | 0  | 26 | 0         | New York       | Kobe.         | 8,352                                  | 7,458  | 5,131 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cherry Branch.           | 22 | 8  | 55 | 22 | 10 | 30 | 22 | 18 | 36 | Japanese.   | Narvik Line.                        | 400   | 0    | 52 | 0  | 17 | 0         | Antwerp        | Guayaquil.    | 2,081                                  | 5,403  | 3,967 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Peruvian.                | 15 | 18 | 08 | 22 | 11 | 10 | 22 | 19 | 25 | Peruvian    | Peruvian Steamship Co.              | 381   | 0    | 46 | 0  | 19 | 4         | Cristobal      | Callao.       | 2,264                                  | 4,803  | 2,951 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| British.                 | 21 | 21 | 57 | 22 | 12 | 03 | 22 | 19 | 29 | British     | Pacific Steam Navigation Co.        | 436   | 0    | 57 | 0  | 23 | 8         | New York       | Valparaiso.   | 1,580                                  | 9,151  | 6,227 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                          |    |    |    |    |    |    |    |    |    |             |                                     |       |      |    |    |    |           |                |               |                                        |        |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Arce.                    | 15 | 15 | 15 | 16 | 6  | 39 | 16 | 16 | 07 | Dutch       | Royal Netherlands W. I. Mail.       | 341   | 0    | 49 | 0  | 16 | 0         | Corral         | Amsterdam     | 2,175                                  | 4,385  | 3,195 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Aysen.                   | 15 | 17 | 00 | 16 | 7  | 11 | 16 | 16 | 10 | Chilean     | Chilean Steamship Line.             | 379   | 0    | 44 | 3  | 21 | 0         | Talcahuano.    | Cristobal     | 4,535                                  | 3,375  | 3,068 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Grande.                  | 15 | 20 | 20 | 16 | 8  | 06 | 16 | 16 | 18 | Norwegian.  | Nordfjeldske Steamship Co.          | 360   | 0    | 52 | 1  | 25 | 0         | Talca.         | Wilmington.   | 6,400                                  | 5,137  | 3,767 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nebraska.                | 16 | 12 | 30 | 16 | 8  | 25 | 16 | 17 | 09 | American    | American-Hawaiian Line.             | 388   | 6    | 55 | 2  | 20 | 19        | San Francisco  | New York      | 3,069                                  | 7,401  | 6,046 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Algarosita.              | 16 | 2  | 30 | 16 | 10 | 02 | 16 | 17 | 38 | British     | Imperial Oil Co.                    | 433   | 3    | 60 | 2  | 26 | 6         | Talara.        | New York      | 10,172                                 | 8,491  | 6,096 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Laure C. Hall.           | 15 | 19 | 00 | 16 | 10 | 14 | 16 | 18 | 50 | British.    | Pacific Metals Corporation.         | 81    | 0    | 26 | 0  | 10 | 0         | Buenaventura.  | Cristobal     | 132                                    | 72     | 72    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Alma Arrow.              | 16 | 6  | 00 | 16 | 11 | 19 | 16 | 18 | 36 | American    | Standard Transportation Co.         | 402   | 3    | 62 | 7  | 20 | 0         | Manila         | New York      | 2,513                                  | 9,744  | 6,973 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Santa Barbara.           | 16 | 6  | 30 | 16 | 12 | 34 | 16 | 20 | 30 | American    | Grace Line.                         | 404   | 6    | 54 | 0  | 28 | 6         | Antofagasta.   | Jacksonville. | 8,803                                  | 6,789  | 4,746 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lompoc.                  | 14 | 14 | 43 | 17 | 7  | 05 | 17 | 15 | 03 | British     | Union Oil Co.                       | 435   | 3    | 55 | 8  | 18 | 6         | Balboa         | Tampico.      | 7,496                                  | 5,311  | 3,111 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Banjo.                   | 17 | 1  | 30 | 17 | 7  | 54 | 17 | 16 | 15 | American    | Island Steamship Line.              | 360   | 0    | 47 | 0  | 24 | 0         | Talca.         | Wilmington.   | 6,050                                  | 4,605  | 3,047 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Juraca.                  | 17 | 5  | 00 | 17 | 10 | 10 | 17 | 17 | 50 | American    | Grace Line.                         | 403   | 0    | 52 | 0  | 20 | 1         | Punta Arenas   | New York      | 8,475                                  | 6,801  | 4,807 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Edward Lock-             | 17 | 12 | 25 | 17 | 12 | 51 | 17 | 18 | 37 | American    | Lockenbach Line.                    | 437   | 0    | 57 | 0  | 20 | 0         | Pacific coast  | New York      | 4,430                                  | 8,543  | 6,427 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| onbach.                  |    |    |    |    |    |    |    |    |    |             |                                     |       |      |    |    |    |           |                |               |                                        |        |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cha-teau                 | 17 | 6  | 00 | 17 | 13 | 40 | 17 | 20 | 08 | American    | United States Army                  | 448   | 0    | 58 | 0  | 22 | 0         | San Francisco  | New York.     | 20                                     |        |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Thierry.                 | 17 | 14 | 45 | 18 | 6  | 41 | 18 | 13 | 47 | American    | Lockenbach Line.                    | 414.5 | 53.7 | 19 | 0  |    |           | Los Angeles.   | Galveston.    | 1,898                                  | 7,779  | 5,732 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Jacob Lucken-            |    |    |    |    |    |    |    |    |    |             |                                     |       |      |    |    |    |           |                |               |                                        |        |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| bach.                    | 17 | 19 | 00 | 18 | 7  | 51 | 18 | 15 | 17 | American.   | Seas Shipping Co.                   | 424.8 | 55   | 2  | 22 | 0  | Tacoma.   | New York.      | 7,043         | 7,473                                  | 5,624  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Robin Good-              | 18 | 2  | 00 | 18 | 8  | 32 | 18 | 16 | 20 | American.   | American and Cuban Line.            | 251   | 0    | 43 | 6  | 18 | 0         | Port San Luis  | Boston.       | 1,119                                  | 2,823  | 1,740 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| fellow.                  | 16 | 7  | 15 | 18 | 12 | 53 | 18 | 19 | 40 | American    | Atlantic Refining Co.               | 265   | 9    | 39 | 13 | 10 | Balboa.   | Port Lobos.    | 1,936         | 1,936                                  | 1,304  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S. R. Veronica.          | 18 | 19 | 20 | 19 | 7  | 48 | 19 | 20 | 10 | American    | Kosmos Steamship Co.                | 434   | 3    | 57 | 22 | 0  | Portland. | New York.      | 5,707         | 7,983                                  | 5,882  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| S. D. Leonard.           | 18 | 19 | 20 | 19 | 7  | 48 | 19 | 20 | 10 | American    | Willson Line.                       | 411.8 | 50   | 1  | 25 | 0  | Corral.   | Antwerp.       | 6,003         | 6,652                                  | 4,794  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Willso.                  | 19 | 12 | 35 | 19 | 12 | 56 | 19 | 21 | 45 | German      | White Star Line.                    | 500   | 0    | 63 | 4  | 28 | Auckland. | London.        | 5,313         | 12,896                                 | 9,571  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nitokris.                | 19 | 19 | 45 | 20 | 7  | 41 | 20 | 15 | 10 | British.    | Standard Oil Co.                    | 410   | 0    | 56 | 0  | 23 | 3         | Los Angeles.   | General.      | 6,000                                  | 8,243  | 6,266 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Athenic.                 | 19 | 22 | 30 | 20 | 9  | 11 | 20 | 16 | 10 | British.    | Star Line                           | 216   | 0    | 35 | 1  | 1  | 7         | Guayaquil      | Cristobal.    | 1,357                                  | 884    |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Eagle.                   | 20 | 11 | 15 | 20 | 12 | 20 | 20 | 19 | 12 | British     | Pacific Steam Navigation Co.        | 404   | 6    | 53 | 9  | 26 | 0         | Seattle        | Baltimore.    | 4,600                                  | 6,755  | 4,750 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Manavi.                  | 20 | 14 | 25 | 21 | 7  | 53 | 21 | 13 | 43 | American    | United States Shipping Board        | 440   | 1    | 56 | 0  | 28 | 0         | San Francisco  | New York.     | 9,113                                  | 8,315  | 6,100 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Charles S.               | 20 | 17 | 35 | 21 | 8  | 32 | 21 | 15 | 55 | American    | United States Shipping Board        | 271   | 0    | 41 | 3  | 16 | 0         | San Francisco  | New Orleans.  | 2,675                                  | 2,359  | 1,399 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Crump.                   | 20 | 17 | 35 | 21 | 8  | 32 | 21 | 15 | 55 | Swedish.    | Svenska Lloyd                       | 271   | 0    | 41 | 3  | 16 | 0         | Talcahuano     | Nitrate       | 2,675                                  | 2,359  | 1,399 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Archer.                  | 20 | 17 | 35 | 21 | 8  | 32 | 21 | 15 | 55 | Swedish.    | Svenska Lloyd                       | 271   | 0    | 41 | 3  | 16 | 0         | Talcahuano     | Nitrate       | 2,675                                  | 2,359  | 1,399 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lombardia.               | 20 | 17 | 35 | 21 | 8  | 32 | 21 | 15 | 55 | Swedish.    | Svenska Lloyd                       | 271   | 0    | 41 | 3  | 16 | 0         | Talcahuano     | Nitrate       | 2,675                                  | 2,359  | 1,399 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canadian.                | 21 | 6  | 40 | 21 | 10 | 03 | 21 | 15 | 55 | British.    | Canadian Government                 | 430   | 0    | 57 | 0  | 20 | 0         | Montreal.      | General.      | 2,260                                  | 7,080  | 5,494 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cruiser.                 | 21 | 10 | 30 | 21 | 11 | 03 | 21 | 15 | 55 | British.    | P. Johansen.                        | 265   | 0    | 37 | 1  | 14 | 0         | Guayaquil      | General.      | 706                                    | 1,851  | 1,179 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Auna.                    | 22 | 0  | 01 | 22 | 7  | 53 | 22 | 15 | 19 | Norwegian.  | Vestlaa Steamship Co.               | 423   | 4    | 56 | 0  | 26 | 8         | Caleña Colosa. | Ballast.      | 6,199                                  | 4,412  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vestalia.                | 22 | 0  | 01 | 22 | 7  | 53 | 22 | 15 | 19 | British.    | Vestlaa Steamship Co.               | 423   | 4    | 56 | 0  | 26 | 8         | Caleña Colosa. | Ballast.      | 6,199                                  | 4,412  |       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Santa Ana.               | 21 | 19 | 15 | 22 | 12 | 19 | 22 | 18 | 19 | American    | Grace Line (Pacific Mail S. S. Co.) | 360   | 2    | 51 | 6  | 22 | 0         | San Francisco  | General.      | 1,500                                  | 5,776  | 4,081 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Freightlight.            | 22 | 12 | 25 | 22 | 13 | 09 | 22 | 21 | 39 | British.    | Hain Steamship Co.                  | 460   | 3    | 59 | 0  | 24 | 6         | Brisbane.      | New York      | 8,760                                  | 8,772  | 6,461 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

<sup>8</sup> Ammunition, fuses, and general.  
Continued on page 486, col.



### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending April 22, 1922.

| Name of vessel.       | Line or charterer.                  | Arrived.      | Departed.     | Cargo—           |                  |
|-----------------------|-------------------------------------|---------------|---------------|------------------|------------------|
|                       |                                     |               |               | Discharged       | Laded.           |
|                       |                                     |               |               | <i>Tons.</i>     | <i>Tons.</i>     |
| Advance.....          | Panama Railroad Steamship Line..... |               | April 16..... |                  | 126              |
| Gen. O. H. Ernst..... | Panama Railroad Steamship Line..... |               | April 17..... |                  | 76               |
| Orita.....            | Pacific Steam Navigation Co.....    | April 16..... | April 17..... | 5                | 177              |
| R. D. Leonard.....    | Atlantic Refining Co.....           | April 16..... | April 17..... | 863              | ( <sup>2</sup> ) |
| Atenas.....           | United Fruit Co.....                | April 16..... | April 17..... | ( <sup>1</sup> ) | 288              |
| Ares.....             | Royal Netherlands W. I. Mail.....   | April 16..... | April 18..... | 404              | 872              |
| Jamaica.....          | Pacific Steam Navigation Co.....    | April 16..... | April 18..... | 18               | 231½             |
| Laura C. Hall.....    | Pacific Metals Corp.....            | April 16..... | April 18..... | 39               | 15               |
| Aysen.....            | Chilean Line.....                   | April 16..... | April 19..... | 176              | 944              |
| Amassia.....          | Hamburg-American Line.....          | April 17..... | April 17..... | 90               | ( <sup>2</sup> ) |
| Colon.....            | Panama Railroad Steamship Line..... |               | April 19..... |                  | 2,481            |
| Heredia.....          | United Fruit Co.....                | April 17..... | April 20..... | 534              | 44               |
| Cristobal.....        | Panama Railroad Steamship Line..... | April 18..... | April 20..... | 9,390            | ( <sup>2</sup> ) |
| Ulua.....             | United Fruit Co.....                | April 18..... | April 19..... | 239              | 90½              |
| Granfos.....          | Caribbean Steamship Line.....       | April 19..... | April 19..... | 82               | ( <sup>2</sup> ) |
| Sixaola.....          | United Fruit Co.....                | April 19..... | April 19..... | 6                | 16               |
| Carrillo.....         | United Fruit Co.....                | April 19..... | April 20..... | 168              | 224              |
| Atenas.....           | United Fruit Co.....                | April 20..... | April 20..... | ( <sup>1</sup> ) | ½                |
| Oranje Nassau.....    | Royal Netherlands W. I. Mail.....   | April 20..... | April 20..... | 33               | ½                |
| Manavi.....           | Pacific Steam Navigation Co.....    | April 20..... | April 20..... | 134              |                  |
| Ebro.....             | Pacific Steam Navigation Co.....    | April 21..... | April 22..... | 184              | ( <sup>2</sup> ) |
| Anna.....             | Caribbean Steamship Line.....       | April 21..... | April 22..... | 118½             | ( <sup>2</sup> ) |
| Advance.....          | Panama Railroad Steamship Line..... | April 21..... | April 21..... | 686              |                  |
| Archer.....           | Barber Line.....                    | April 21..... | April 21..... | ½                | ( <sup>2</sup> ) |
| Achilles.....         | Panama Railroad Steamship Line..... | April 22..... | April 22..... | 12,019           |                  |
| Santa Ana.....        | Pacific Mail Steamship Co.....      | April 22..... | April 22..... | 3,144            |                  |
| Honduras.....         | French Line.....                    | April 22..... | April 22..... | 9                |                  |
| San Bruno.....        | United Fruit Co.....                | April 22..... | April 22..... | 20               | 38               |

<sup>1</sup> No cargo discharged.<sup>2</sup> No cargo laded.<sup>3</sup> Packages.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending April 22, 1922.

| Name of vessel.      | Line or charterer.                    | Arrived.      | Departed.     | Cargo—       |              |
|----------------------|---------------------------------------|---------------|---------------|--------------|--------------|
|                      |                                       |               |               | Discharged   | Laded.       |
|                      |                                       |               |               | <i>Tons.</i> | <i>Tons.</i> |
| Aysen.....           | South American Steamship Line.....    | April 16..... | April 16..... | 163          |              |
| Laura C. Hall.....   | Pacific Metals Transportation Co..... | April 16..... | April 16..... | 11           |              |
| Delft.....           | Royal Netherlands W. I. Mail.....     | April 16..... | April 16..... | 159          |              |
| Chateau Thierry..... | United States Army.....               | April 17..... | April 17..... | 4            |              |
| R. D. Leonard.....   | Atlantic Refining Co.....             | April 17..... | April 18..... | 397          |              |
| Jamaica.....         | Pacific Steam Navigation Co.....      | April 18..... | April 18..... |              | 10           |
| Laura C. Hall.....   | Pacific Metals Transportation Co..... | April 18..... | April 18..... |              | 56           |
| Santa Elisa.....     | Grace Line.....                       | April 19..... | April 19..... | 10           |              |
| Archer.....          | United States Shipping Board.....     | April 20..... | April 21..... | 2            |              |
| Santa Ana.....       | Pacific Mail Steamship Co.....        | April 21..... | April 22..... | 46           |              |

<sup>1</sup>Transport.

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the two weeks ended April 25:

Steamship *Wolsum*, dry-dock ship for repairing damage caused by collision with steamship *West Himrod*, in Colon Harbor; renew about 5 buckled or split under-water plates; fair about 10 bent pates, and fair bent frames; remove, fair, and replace twisted plates and railings on forecastle head; renew or fair damaged plates at bulk-heads of storeroom and paint locker, forward; repair anchor windlasses; cable ship *Guardian*, dry-dock ship for cleaning and painting; stage and clean; paint bottom 1 coat of anticorrosive and 1 coat of antifouling; the following repairs to machinery: rebore refrigerating compressor cylinder; refit valve; overhaul all boiler blow-down valves; renew zinc plates on ship's stem and overhaul all sea valves; renew wood friction blocks on brake bands of cable drums; scale lower bunker in No. 3 ballast tank; the following repairs for deck department: renew facing irons for buoy skids; repair cowl; fair dents, and renew defective plates in buoys; fit struts to forward davit; overhaul galley stove and manufacture 12 serving mallets; dredge *Cascadas*, dry-dock for cleaning, painting, and hull repairs; stage and clean, and paint bottom 2 coats of anticorrosive and 1 coat of antifouling; test tanks and renew leaky rivets



in hull and spud wells; reinforce spud housing; make general repairs to all machinery, including main engines; motor schooner *Laura C. Hall*, furnish and fit up air hose for blowing out vessel's fuel oil tank with compressed air; steamship *W. J. Hanna*, dry-dock ship for repairs on account of broken propeller shaft; cleaning and painting; stage and clean; paint bottom 1 coat of anticorrosive and 1 coat of antifouling; paint boot topping; remove broken propeller shaft and broken tail shaft; rework and rebore stern tube; install new propeller shaft and new tail shaft furnished by ship; ream holes and renew coupling bolts between new and old shafting; alter 3 sections of copper steam piping to deck machinery; renew oil piping to crank pin on connecting rod of high power, intermediate power, and low power engines; make minor repairs to 2 valves and 1 section of heating pipe for deck house; make tight 3 staybolt nuts; renew 6 feet of internal feed pipe for boilers; refit main check valves and internal feed pipe where connected to the internal boiler head, 3 boilers; make minor repairs to deck fittings; launch *Augusta Victoria*, remove crank shaft; turn crank pin true; remetal 2 crank-pin brasses and 1 main bearing; line up engine with tail shaft and dismantle 4 hot balls, cylinder heads, and pistons; clean out engine and assemble.

## PREVIOUSLY REPORTED.

Tug *Favorite*, convert from coal burner to oil burner.

The following vessels were at the Cristobal shops for repairs during the week ended April 25:

Steamships *Carrillo*, machine blow-down valve; *Manavi*, open and test main condenser; renew leaky tubes; clean and paint water spaces; supply and fit new impeller shaft for main circulating pump; fit neck gland bushings; true up, re-bed, and make steam-tight ash hoist trunnions; test starboard boiler; repair chairs and door locks; renew angle sockets for gangway door; make winch chute; renew cover plate for bulkhead lamp room; refit fresh water pump and renew pump suction pipe; repair and test 2 weighing machines; repair gangway platform; manufacture eyebolt for funnel guy; *Cauca*, make tarpaulin; calk well deck; electric weld hawse pipe; repairs to engine; *Achilles*, clean all boilers; punch tubes; clean back connections and furnaces; paint boiler fronts; U. S. S. *O-11*, *O-12*, *O-13*, *O-14*, *O-15*, and *O-16*, manufacture blank bolts, main bearing studs, and pump plungers.

## Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective April 15, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.20 |
| Brass, sheet, average.....                                        | Lb.            | .31    |
| Bronze, Tobin, average.....                                       | Lb.            | .25    |
| Gasoline, motor grade.....                                        | Gal.           | .3125  |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .11    |
| Oakum, Navy, unspun.....                                          | Lb.            | .14    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Bbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .51    |
| Oil, burning.....                                                 | Gal.           | 1.06   |
| Oil, engine, gas, in barrels.....                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .50    |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .40    |
| Oil, kerosene, in drums.....                                      | Gal.           | .21    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .56    |
| Paint, lead, white, dry.....                                      | Lb.            | .09    |
| Paint, lead, white, in oil.....                                   | Lb.            | .09    |
| Paint, zinc, white, dry.....                                      | Lb.            | .15    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .16    |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .09    |
| Soda, ash.....                                                    | Lb.            | .03    |
| Waste, cotton, colored.....                                       | Lb.            | .14    |
| Waste, cotton, white.....                                         | Lb.            | .15    |



# THE PANAMA CANAL RECORD

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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

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Volume XV.

Balboa Heights, C. Z., May 3, 1922.

No. 38.

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## Canal Traffic in April.

A total of 230 ocean-going commercial vessels transited the Canal during the month of April, the tolls on which amounted to \$953,256.11, as compared with \$956,726.76 tolls for 234 vessels last month, and \$927,977.09 tolls for 227 vessels in the month of April last year. While the tolls are slightly less than for the preceding month, the cargo tonnage was greater, the total for April being approximately 1,045,000 tons, as compared with 960,089 cargo tons for the preceding month, and 907,613 cargo tons for April, 1921. This is the first time the cargo tonnage has exceeded 1,000,000 tons since March, 1921.

In addition to the above commercial traffic, 9 small nonseagoing launches transited the Canal during the month, on which tolls of \$38.75 were paid, and 14 vessels passed through the Canal free of tolls. Of the vessels transiting the Canal free of tolls, 12 were noncommercial vessels of the United States Government, and 2 were commercial vessels which were passed through the Canal without charge in order to have repairs made at the Balboa dry dock.

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## The "Derblay" Assisted by the "Killerig."

The tug *Killerig*, operated by Lindsay, Swan & Hunter, of Kingston, passed through the Canal on April 18, bound from Kingston to Manta Bay, Ecuador, to assist the American steamer *Derblay*, which was aground there. After the floating of the ship, the *Derblay* continued her voyage and the *Killerig* returned to Kingston, passing through the Canal on April 27.

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## Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, April 29, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                 | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line. | Length. | Beam. | Salt water draft. | From— | For— | Cargo.             |        | Panama Canal tonnage. |       |
|-----------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-------|---------|-------|-------------------|-------|------|--------------------|--------|-----------------------|-------|
|                       | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |       |         |       |                   |       |      | Nature.            | Tons.  | Gross.                | Net.  |
| India Arrow.          | 22               | 13    | 50             | 23    | 6                  | 20    | 23               | 15    | 35           | 23    | 17      | 03    |                   |       |      | Petroleum.         | 10,982 | 10,084                | 7,426 |
| Frederick Luckenbach. | 22               | 14    | 24             | 23    | 7                  | 19    | 23               | 16    | 00           | 23    | 17      | 17    |                   |       |      | General.           | 3,316  | 2,987                 | 2,056 |
| Honduras.             | 22               | 7     | 21             | 23    | 7                  | 45    | 23               | 16    | 22           | 23    | 17      | 32    |                   |       |      | General.           | 3,482  | 6,020                 | 4,363 |
| Toku Maru.            | 23               | 6     | 25             | 23    | 8                  | 05    | 23               | 17    | 11           | 23    | 15      | 16    |                   |       |      | Sugar.             | 6,012  | 5,151                 | 3,663 |
| Eastern Knight.       | 22               | 18    | 56             | 23    | 9                  | 38    | 23               | 17    | 35           | 23    | 18      | 46    |                   |       |      | General.           | 9,067  | 7,613                 | 5,593 |
| Solima City.          | 23               | 6     | 46             | 23    | 11                 | 35    | 23               | 18    | 45           | 23    | 19      | 50    |                   |       |      | Steel and general. | 8,700  | 7,611                 | 5,450 |
| Shannon.              | 23               | 6     | 46             | 23    | 11                 | 35    | 23               | 18    | 45           | 23    | 19      | 50    |                   |       |      | Ballast.           | 1      | 1                     | 1     |
| City of Rome.         | 23               | 15    | 05             | 21    | 6                  | 25    | 24               | 11    | 06           | 24    | 15      | 16    |                   |       |      | General.           | 7,010  | 5,865                 | 4,426 |
| Pleasant.             | 25               | 2     | 24             | 25    | 6                  | 45    | 25               | 14    | 30           | 25    | 15      | 45    |                   |       |      | General.           | 4,226  | 4,147                 | 3,250 |
| Alaskan.              | 25               | 3     | 55             | 25    | 7                  | 05    | 25               | 15    | 31           | 25    | 16      | 29    |                   |       |      | General.           | 6,000  | 9,250                 | 6,816 |
| Sagular.              | 24               | 1     | 25             | 25    | 15                 | 14    | 25               | 16    | 40           |       | 13      | 2     |                   |       |      | Ballast.           | 8      | 8                     | 8     |
| Hermes.               | 25               | 9     | 40             | 26    | 6                  | 12    | 26               | 11    | 17           | 26    | 23      | 34    |                   |       |      | General.           | 1,850  | 4,182                 | 3,059 |
| Canadian.             | 26               | 10    | 10             | 26    | 10                 | 30    | 26               | 17    | 20           | 26    | 20      | 35    |                   |       |      | General.           | 1,878  | 5,893                 | 4,135 |
| Seigneur.             | 26               | 6     | 19             | 26    | 12                 | 05    | 26               | 19    | 02           | 26    | 19      | 55    |                   |       |      | General.           | 1,677  | 2,878                 | 1,714 |
| Almagro.              | 26               | 6     | 19             | 26    | 12                 | 05    | 26               | 19    | 02           | 26    | 19      | 55    |                   |       |      | General.           | 5,000  | 8,508                 | 6,179 |
| Katrina Luckenbach.   | 26               | 6     | 19             | 26    | 12                 | 05    | 26               | 19    | 02           | 26    | 19      | 55    |                   |       |      | General.           | 1,516  | 11,027                | 8,188 |
| Ruadine.              | 27               | 6     | 30             | 27    | 7                  | 17    | 27               | 15    | 10           | 27    | 23      | 49    |                   |       |      | General.           | 518    | 1,357                 | 881   |
| Manayi.               | 20               | 13    | 12             | 27    | 10                 | 20    | 27               | 17    | 10           | 27    | 19      | 37    |                   |       |      | Coal.              | 6,000  | 5,188                 | 3,779 |
| Adriano Irene.        | 28               | 6     | 25             | 28    | 6                  | 55    | 28               | 4     | 48           | 28    | 16      | 25    |                   |       |      | General.           | 3,612  | 1,574                 | 1,574 |
| Gen. H. F. Hodges.    | 14               | 14    | 40             | 29    | 6                  | 09    | 29               | 9     | 05           |       |         |       |                   |       |      | Ballast.           | 6,674  | 5,657                 | 4,217 |
| Red Hook.             | 28               | 17    | 47             | 29    | 7                  | 18    | 29               | 14    | 40           | 29    | 16      | 05    |                   |       |      | General.           | 8,268  | 7,611                 | 5,450 |
| Amistad City.         | 28               | 19    | 13             | 29    | 8                  | 50    | 29               | 16    | 07           | 29    | 17      | 07    |                   |       |      | General.           | 4,209  |                       |       |
| Gold Star.            | 23               | 8     | 05             | 29    | 11                 | 18    | 29               | 17    | 35           |       |         |       |                   |       |      | General.           |        |                       |       |

\* Launched.

\* Transport.

\* Manufactured goods, iron, steel, and textile goods.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Ship.       | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line. | Length. | Beam. | Salt water draft. | From— | For— | Cargo.            |       | Panama Canal tonnage. |       |
|-------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-------|---------|-------|-------------------|-------|------|-------------------|-------|-----------------------|-------|
|             | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |       |         |       |                   |       |      | Nature.           | Tons. | Gross.                | Net.  |
| Somerset.   | 22               | 11    | 00             | 23    | 8                  | 03    | 23               | 15    | 45           | 23    | 18      | 05    |                   |       |      | General.          | 5,659 | 9,943                 | 7,580 |
| Pun Branch. | 23               | 9     | 15             | 23    | 11                 | 03    | 23               | 18    | 35           | 24    | 6       | 08    |                   |       |      | Nitrate, general. | 5,965 | 5,761                 | 3,881 |
| Ribera.     | 23               | 19    | 00             | 24    | 7                  | 52    | 24               | 15    | 30           | 24    | 20      | 12    |                   |       |      | Nitrate.          | 6,560 | 5,469                 | 4,042 |
| Señora.     | 23               | 14    | 18             | 24    | 8                  | 05    | 24               | 14    | 57           |       |         |       |                   |       |      | Ballast.          |       |                       |       |
| Denver.     | 23               | 19    | 45             | 24    | 9                  | 35    | 24               | 14    | 23           |       |         |       |                   |       |      | Ballast.          |       |                       |       |
| Avonmouth.  | 22               | 11    | 00             | 23    | 8                  | 03    | 23               | 15    | 45           | 23    | 18      | 05    |                   |       |      | General.          | 5,659 | 9,943                 | 7,580 |
| Liverpool.  | 23               | 9     | 15             | 23    | 11                 | 03    | 23               | 18    | 35           | 24    | 6       | 08    |                   |       |      | Nitrate, general. | 5,965 | 5,761                 | 3,881 |
| Norfolk.    | 23               | 19    | 00             | 24    | 7                  | 52    | 24               | 15    | 30           | 24    | 20      | 12    |                   |       |      | Nitrate.          | 6,560 | 5,469                 | 4,042 |
| Cristobal.  | 23               | 14    | 18             | 24    | 8                  | 05    | 24               | 14    | 57           |       |         |       |                   |       |      | Ballast.          |       |                       |       |
| Cristobal.  | 23               | 19    | 45             | 24    | 9                  | 35    | 24               | 14    | 23           |       |         |       |                   |       |      | Ballast.          |       |                       |       |



| PORT OF CRISTOBAL.                                                                       |                               |                                 |                             |          |                      |                                |                          |                  |                    |
|------------------------------------------------------------------------------------------|-------------------------------|---------------------------------|-----------------------------|----------|----------------------|--------------------------------|--------------------------|------------------|--------------------|
| Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian. |                               |                                 |                             |          |                      |                                |                          |                  |                    |
| Date                                                                                     | Vessel                        | Line                            | From                        | Date     | Vessel               | Line                           | For                      |                  |                    |
| April 23                                                                                 | Oranje Nassau                 | Royal Netherlands W. I. Mail.   | Port Limon.                 | April 23 | Advance              | Panama Railroad Steamship Line | Puerto Colombia.         | General          | 4,548 9,099 6,117  |
| April 23                                                                                 | Abangarez                     | United Fruit Co.                | New Orleans via Habana.     | April 23 | Oranje Nassau        | Royal Netherlands W. I. Mail   | Puerto Colombia.         | Lumber           | 3,706 5,577 4,225  |
| April 23                                                                                 | Gen. G. W. Goethals.          | Panama Railroad Steamship Line. | New York via Haiti.         | April 24 | Abangarez            | United Fruit Co.               | Bocas del Toro.          | General          | 10,490 9,115 7,083 |
| April 24                                                                                 | Oranje Nassau                 | United Fruit Co.                | Tampico.                    | April 26 | Oranje Nassau        | Panama Railroad Steamship Line | Norfolk.                 | General          | 3,847 8,620 5,345  |
| April 25                                                                                 | San Gil                       | United Fruit Co.                | Boston and Habana.          | April 26 | Gen. G. W. Goethals. | United Fruit Co.               | New York via wayports.   | Lumber, general. | 6,008 7,186 4,440  |
| April 25                                                                                 | Tolosa                        | United Fruit Co.                | New Orleans via Port Limon. | April 26 | Tolosa               | United Fruit Co.               | Tampico.                 | General          | 3,659 7,468 5,433  |
| April 25                                                                                 | Peru                          | French Line                     | St. Nazaire and wayports.   | April 27 | Camden               | United Fruit Co.               | Boston via Port Limon.   | General          | 5,933 8,543 6,402  |
| April 25                                                                                 | Abangarez                     | Panama Railroad Steamship Line  | Bocas del Toro.             | April 27 | San Gil              | United Fruit Co.               | New Orleans via wayports | General          | 7,232 7,470 5,618  |
| April 27                                                                                 | Advance                       | Royal Netherlands W. I. Mail.   | Puerto Colombia.            | April 27 | Peru                 | French Line                    | New Orleans via wayports | Lumber           | 6,923 8,623 5,152  |
| April 28                                                                                 | Orion                         | Elkders & Fyffes, Ltd           | Austerland and Haiti        | April 27 | Abangarez            | United Fruit Co.               | New Orleans.             | Ballast          | 373 373            |
| April 28                                                                                 | Camito                        | United States Army              | Port Limon.                 | April 28 | Holmia               | Svenska Lloyd.                 | New Orleans.             | General          | 9,000 7,396 5,588  |
| April 29                                                                                 | Sonne                         | Eastern Commercial de Oriental. | Brooklyn via San Juan.      | April 28 | Camito               | United Fruit Co.               | Puerto Colombia.         | General          | 6,360 3,429 2,206  |
| April 29                                                                                 | Conde de Churruar             | T. & J. Harrison.               | Tampico.                    | April 29 | Camito               | United Fruit Co.               | New Orleans.             | General          | 7,400 5,919 4,400  |
| April 29                                                                                 | Settler                       | United States Navy              | Liverpool and wayports.     | April 29 | Camito               | United Fruit Co.               | New Orleans.             | Grain            | 7,187 7,022        |
| April 29                                                                                 | Hannibal                      | United States Navy              | High seas.                  | April 29 | Camito               | United Fruit Co.               | New Orleans.             | Automobiles      | 40 15,233 10,471   |
| April 29                                                                                 | United States Army transport. | United States Navy              | High seas.                  | April 29 | Camito               | United Fruit Co.               | New Orleans.             | General          | 5,454 3,905 4,391  |
| April 20                                                                                 | W. J. Hanna                   | Standard Oil Co                 | Paila.                      | April 28 | W. J. Hanna          | Standard Oil Co.               | Tallara                  | General          | 6,077 6,140 4,298  |
| April 22                                                                                 | Augusta Victoria              | M. Valencia.                    | Panama.                     | April 28 | Augusta Victoria     | M. Valencia                    | Panama.                  | General          | 3,260 2,156        |

## PORT OF CRISTOBAL.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

| *ARRIVALS. |        |      |      |      |        |      |     |  |  |
|------------|--------|------|------|------|--------|------|-----|--|--|
| Date       | Vessel | Line | From | Date | Vessel | Line | For |  |  |

## \*DEPARTURES.

| *ARRIVALS. |                               |                                 |                             |          |                      |                                |                          |                  |                    |
|------------|-------------------------------|---------------------------------|-----------------------------|----------|----------------------|--------------------------------|--------------------------|------------------|--------------------|
| Date       | Vessel                        | Line                            | From                        | Date     | Vessel               | Line                           | For                      |                  |                    |
| April 23   | Oranje Nassau                 | Royal Netherlands W. I. Mail.   | Port Limon.                 | April 23 | Advance              | Panama Railroad Steamship Line | Puerto Colombia.         | General          | 4,548 9,099 6,117  |
| April 23   | Abangarez                     | United Fruit Co.                | New Orleans via Habana.     | April 23 | Oranje Nassau        | Royal Netherlands W. I. Mail   | Puerto Colombia.         | Lumber           | 3,706 5,577 4,225  |
| April 23   | Gen. G. W. Goethals.          | Panama Railroad Steamship Line. | New York via Haiti.         | April 24 | Abangarez            | United Fruit Co.               | Bocas del Toro.          | General          | 10,490 9,115 7,083 |
| April 24   | Oranje Nassau                 | United Fruit Co.                | Tampico.                    | April 26 | Oranje Nassau        | Panama Railroad Steamship Line | Norfolk.                 | General          | 3,847 8,620 5,345  |
| April 25   | San Gil                       | United Fruit Co.                | Boston and Habana.          | April 26 | Gen. G. W. Goethals. | United Fruit Co.               | New York via wayports.   | Lumber, general. | 6,008 7,186 4,440  |
| April 25   | Tolosa                        | United Fruit Co.                | New Orleans via Port Limon. | April 26 | Tolosa               | United Fruit Co.               | Tampico.                 | General          | 3,659 7,468 5,433  |
| April 25   | Peru                          | French Line                     | St. Nazaire and wayports.   | April 27 | Camden               | United Fruit Co.               | Boston via Port Limon.   | General          | 5,933 8,543 6,402  |
| April 25   | Abangarez                     | Panama Railroad Steamship Line  | Bocas del Toro.             | April 27 | San Gil              | United Fruit Co.               | New Orleans via wayports | General          | 7,232 7,470 5,618  |
| April 27   | Advance                       | Royal Netherlands W. I. Mail.   | Puerto Colombia.            | April 27 | Peru                 | French Line                    | New Orleans via wayports | Lumber           | 6,923 8,623 5,152  |
| April 28   | Orion                         | Elkders & Fyffes, Ltd           | Austerland and Haiti        | April 27 | Abangarez            | United Fruit Co.               | New Orleans.             | Ballast          | 373 373            |
| April 28   | Camito                        | United States Army              | Port Limon.                 | April 28 | Holmia               | Svenska Lloyd.                 | New Orleans.             | General          | 9,000 7,396 5,588  |
| April 29   | Sonne                         | Eastern Commercial de Oriental. | Brooklyn via San Juan.      | April 28 | Camito               | United Fruit Co.               | Puerto Colombia.         | General          | 6,360 3,429 2,206  |
| April 29   | Conde de Churruar             | T. & J. Harrison.               | Tampico.                    | April 29 | Camito               | United Fruit Co.               | New Orleans.             | General          | 7,400 5,919 4,400  |
| April 29   | Settler                       | United States Navy              | Liverpool and wayports.     | April 29 | Camito               | United Fruit Co.               | New Orleans.             | Grain            | 7,187 7,022        |
| April 29   | Hannibal                      | United States Navy              | High seas.                  | April 29 | Camito               | United Fruit Co.               | New Orleans.             | Automobiles      | 40 15,233 10,471   |
| April 29   | United States Army transport. | United States Navy              | High seas.                  | April 29 | Camito               | United Fruit Co.               | New Orleans.             | General          | 5,454 3,905 4,391  |
| April 20   | W. J. Hanna                   | Standard Oil Co                 | Paila.                      | April 28 | W. J. Hanna          | Standard Oil Co.               | Tallara                  | General          | 6,077 6,140 4,298  |
| April 22   | Augusta Victoria              | M. Valencia.                    | Panama.                     | April 28 | Augusta Victoria     | M. Valencia                    | Panama.                  | General          | 3,260 2,156        |

\*Other than ships passing through the Canal.

**Financial Receipts and Disbursements, March, 1922.**

BALBOA HEIGHTS, C. Z., April 28, 1922.

*The Honorable, the Secretary of War,  
Washington, D. C.*

SIR: Herewith is a report showing the commissary sales, financial receipts and expenditures, and of the cash balance available in The Panama Canal appropriations for the month of March, 1922, as compared with the preceding month, and with the corresponding month of last year:

|                                                                                     | March,<br>1922. | February,<br>1922. | March,<br>1921. |
|-------------------------------------------------------------------------------------|-----------------|--------------------|-----------------|
| Cash balance available for expenditure in Canal appropriations on last day of month | \$11,741,940.27 | \$11,996,276.91    | \$11,058,468.77 |
| Payments made from appropriations:                                                  |                 |                    |                 |
| By Paymaster on the Isthmus                                                         | 891,747.77      | 905,108.33         | 1,542,364.57    |
| By Disbursing Clerk, Washington, D. C.                                              | 97,040.53       | 157,918.57         | 1,206,502.77    |
| To the Panama Railroad Company (for commissary books)                               | 173,358.01      | 179,237.13         | 310,483.20      |
| Collections on the Isthmus:                                                         |                 |                    |                 |
| Repaid to appropriations                                                            | 513,416.00      | 760,759.67         | 861,894.93      |
| Commissary and other trust funds                                                    | 175,805.94      | 182,034.41         | 312,700.40      |
| Tolls                                                                               | 956,734.11      | 866,283.08         | 1,105,566.19    |
| Sales of water                                                                      | 32.75           | 1,680.20           | 3,335.85        |
| Postal receipts                                                                     | 10,069.52       | 8,429.78           | 12,052.72       |
| Licenses, taxes, court fees, fines, etc.                                            | 3,009.00        | 3,836.97           | 3,564.70        |
| Sales of construction material and equipment                                        | 3,091.00        | 525.00             | 1,911.79        |
| Total collections on Isthmus                                                        | 1,662,158.32    | 1,823,551.11       | 2,301,026.58    |
| Collections by Disbursing Clerk, Washington                                         | 10,785.91       | 38,031.40          | 112,209.56      |
| Deposits with Assistant Treasurer, United States                                    | 57,300.00       | 51,800.00          | 59,485.94       |
| Canal Zone and miscellaneous funds:                                                 |                 |                    |                 |
| Receipts—                                                                           |                 |                    |                 |
| Money order funds                                                                   | 129,898.22      | 106,328.64         | 244,347.61      |
| Clubhouse funds                                                                     | 28,903.13       | 29,221.05          | 50,152.32       |
| Trust funds                                                                         | 2,266.00        | 600.00             | 2,560.04        |
| Interest                                                                            | 1,176.43        | 1,779.15           | 1,570.01        |
| Total receipts                                                                      | 162,177.78      | 137,928.84         | 298,629.98      |
| Disbursements—                                                                      |                 |                    |                 |
| Money order funds                                                                   | 130,950.00      | 80,100.00          | 20,055.00       |
| Clubhouse funds                                                                     | 24,951.08       | 25,466.49          | 50,751.94       |
| Trust funds                                                                         | 1,173.85        | 183.96             | 1,173.21        |
| Interest                                                                            | 442.78          | 323.06             | 817.11          |
| Total disbursements                                                                 | 157,517.71      | 106,073.51         | 72,797.26       |
| Pay roll on the Isthmus:                                                            |                 |                    |                 |
| Maintenance and operation                                                           | 628,253.76      | 612,338.61         | 1,141,371.50    |
| Sanitation                                                                          | 71,740.36       | 69,983.00          | 86,646.49       |
| Civil Government                                                                    | 68,387.15       | 66,690.08          | 66,823.15       |
| Totals                                                                              | 768,381.27      | 749,011.69         | 1,294,841.14    |
| Requisitions for purchases in the United States                                     | 351,290.94      | 118,223.03         | 514,743.10      |
| Sales of commissary supplies:                                                       |                 |                    |                 |
| To The Panama Canal                                                                 | 75,307.75       | 73,744.15          | 138,042.24      |
| To steamships other than those of the United States Government and Panama Railroad  | 31,294.52       | 34,697.33          | 65,856.83       |
| To the Panama Railroad, including its steamships and the Hotel Washington           | 18,719.85       | 17,597.43          | 25,532.93       |
| To the United States Government, including the Army and Navy                        | 84,125.92       | 64,714.25          | 133,333.68      |
| To individuals and companies through charge accounts                                | 27,159.72       | 24,869.21          | 25,281.84       |
| To individuals purchasing coupons                                                   | 317,701.26      | 289,640.52         | 504,908.51      |
| Totals                                                                              | 554,309.02      | 505,262.89         | 892,956.03      |

Respectfully,

JAY J. MORROW,

*Governor.***Postal and Cable Addresses of The Panama Canal.**

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal Washington."

### Rental of Hotels Tivoli and Washington.

Sealed proposals will be received in the office of the Chief Quartermaster, Balboa Heights, C. Z., up until 10.30 a. m., June 1, 1922, and then opened, for the rental of the Hotels Tivoli and Washington.

Forms of proposals may be had upon application to the office of the Chief Quartermaster.

### Towing of "Willpolo" to San Pedro Completed.

The Panama Canal tug *Tavernilla*, which left Balboa on April 10 to assist the steamship *Willpolo*, in distress off the coast of Nicaragua, reached San Pedro (Los Angeles) with the vessel in tow on April 28. The ship having been delivered in safety, and the legal formalities completed, the *Tavernilla* left for the Canal on May 2.

### Difficulties Incident to Determination of "United States Equivalent" Net Tonnage, for Levy of Tolls.

Tolls on merchant ships passing through the Panama Canal are levied on the basis of their net tonnage. This net tonnage is essentially the interior spaces which may be used for the carriage of cargo or passengers, measured in tons of 100 cubic feet (2.83 cubic meters). The toll rates are \$1.20 per net ton, as thus determined under the Panama Canal rules of measurement, for ships carrying passengers or cargo (or fuel in excess of the bunker allowance),<sup>1</sup> and 72 cents per net ton for ships in ballast. But there is a proviso, based on the Act of Congress establishing the conditions of operation of the Canal, that the amount collectible shall not exceed the equivalent of \$1.25 times the net tonnage of the ship as determined under the rules for measurement for registry in the United States and shall not be less than 75 cents times that same United States registry measurement.

The effect of this is that the net tonnage must be computed according to both methods of measurement, and the tolls levied in accordance with the foregoing provisions. This has been found to be onerous and a departure from the simplicity of rules and management which is the ideal of the Canal administration. It has incurred added difficulties because the rules for measurement for registry in the United States are changed from time to time. The practical result is that the tolls are collected on a basis which is not fixed and permanent, but may change between the transits of a vessel or with minor changes in the condition of the ship herself, occurring in the course of her preparations for loading or discharging or on account of the weather.

Legislation to correct this situation has been recommended but so far has not been enacted. In the meantime, ships' operators not entirely familiar with the situation have shown some resentment at what has appeared to them an arbitrary practice which sometimes makes their tolls considerably more than they had anticipated. With the idea of explaining the situation, at least in part, the following paragraphs are quoted from a memorandum to the Chairman of the Board of Admeasurement of The Panama Canal from the chief measurer at Cristobal:

" \* \* \* The main source (of misunderstanding and ill will in connection with measurement and the levy of tolls) lies in our consistent and impartial

<sup>1</sup> The bunker allowance is explained on page 84 of the *Rules and Regulations for the Operation and Navigation of the Panama Canal*, and in THE PANAMA CANAL RECORD, of Nov. 2, 1921, p. 185.



application of the portion of said rules (United States measurement rules) relating to the exemption of shelter deck, fore-castle bridge, and poop spaces, with consequent propelling power percentage adjustment necessitated thereby. The vicious circle is started by a ship's arrival with the tonnage openings of one or more of the foregoing spaces closed in a manner incompatible for exemption under the United States rules. The inclusion of such spaces in the net tonnage as found under said rules results normally in an increase of 500 to 2,000 tons above their national net tonnage based on rules similar to those of the United States, whereupon in due course the owners, after ascertaining the reason through correspondence with their agents and the admeasurers, exhibit a not unnatural irritation in paying \$625 to \$2,500 more for their ship's transit than they contemplated.

One of the chief reasons for action along this line is the use of gaskets or battening around the tonnage openings. In some cases the owners have actually discharged masters of such vessels, maintaining they should have known enough to remove same prior to arrival for transit. It often happens the succeeding master has explicit instructions on the point and, at next arrival, requests remeasurement which results in exemption of such spaces and hence greatly decreased tolls bill. With heavy weather outside prior to the third arrival, the mate naturally battens and calks the tonnage opening closures again, usually without telling the master. This necessitates another remeasurement, again increasing the tolls bill and involving further trouble for owners, master, and admeasurers.

As long as the United States rules remain the normal toll factor, or any factor for that matter, there is no alternative but to strictly apply them. It can not be disputed, however, that a vacillating system which admits of such juggling has already caused such an ill-feeling on the part of steamship owners that the mere subject of measurement is like waving a red flag at a bull.

It can be contended that "ignorance is no excuse" and that they should study the rules, issue to their masters specific instructions thereon and see that same are carried out. Yet it often happens that when they think they are set straight on these matters it is found that they have overlooked one of the many vagaries of said rules and are thereby compelled to start all over again.

Many agents here are endeavoring to act as consulting admeasurers to their principals, almost invariably without sufficient knowledge, and thus causing increased resentment and exasperation on the part of the owners.

In one case a series of letters from an agent requesting specific and legitimate information on certain points respecting measurement of vessels of his principals necessitated 17 hours' study of our past records of ships mentioned, to formulate a proper reply; yet there still exist ample opportunities for structural errors affecting tolls bills, not covered in his communication or our reply, which fact was stated.

Another case involved a question of veracity between the master of a Greek ship and the boarding admeasurer. The former, endeavoring to hide what he feared would be considered a dereliction of duty, wrote his owners he had removed all "packings" around tonnage openings prior to arrival, while the latter's records evidenced the fact that this was not true and that all knowledge of the significance of such use was supplied him by his agent. Such incidents are unfortunate and most emphatically disrupt the pleasant relations which should be proverbial at Canal Zone ports.

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### Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice



plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended May 2:

Motor ship *Rosana*, open up engines; remove pistons; manufacture 42 piston rings and install, weld, and machine broken piston skirt; rebush 6 crosshead pins and manufacture pump springs; dredge *No. 86*, renew main deck house sills and deck; renew upper fender plank shear; renew 70 feet of upper deck sills and deck; renew ice box; build new gantry frames; change round spud wells to square; remove and replace deck machinery in wake of repairs; install new ladder brake wheel; redeck and calk galley floor; scale deck plates in way of replacement of wood decks.

#### PREVIOUSLY REPORTED.

Tug *Favorite*, convert from coal burner to oil burner.

The following vessels were at the Cristobal shops for repairs during the week ended May 1:

Steamships *Cauca*, manufacture spindle for Weir pump steam valve; manufacture form spindles and 8 brass springs for ballast pump; bore lubricator for refrigerator gland and alter plunger; reduce refrigerator crosshead bracket and adjust guide; manufacture 2 spindles for refrigerator condenser gauge; repair copper pipe in fiddley; manufacture steel washer for port winch; remetal crank-pin brasses on pump; repair firing tools; manufacture brass ring and washers for pump; repair boat deck service pipe; test boilers; repair dining room filters; install wash basin; paint 2 bathrooms and pantry; *Jamaica*, dock and undock; clean and paint bottom; repair anchor chain; open and test main condenser; renew ferrules and leaky tubes; clean and paint water spaces; renew plate on pump; repair suction pipe and discharge pipes; overhaul circulating pump; renew angle supports; repair firing tools; repair hand rail and runner; repair fore-peak tank suction pipe and cocks; renew towing chock; repair galley funnel; repair forward shoe; repair pantry sink and valve; renew galley grating; repair stove; manufacture grating for ice room; *Acajulla*, repair locking bar for hatch No. 1; repair pipe casing; repair hatch scales; calk upper deck; clean and paint forecabin; repair and adjust gauges; overhaul sanitary pump; manufacture 2 spindles for injector; schooner *Arabia*, steamships *Perou*, *Parissima*, *Orion*, launch *Actico*, steamship *Advance*; and U. S. S. *Hannibal*, minor repairs.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending April 29, 1922.

| Name of vessel. | Line or charterer.           | Arrived.       | Departed.      | Cargo—     |        |
|-----------------|------------------------------|----------------|----------------|------------|--------|
|                 |                              |                |                | Discharged | Laded. |
|                 |                              |                |                | Tons.      | Tons.  |
| Cauca .....     | Pacific Steam Navigation Co. | April 25 ..... | April 25 ..... | 4 .....    |        |
| Hermes .....    | Royal Netherlands W. I. Mail | April 26 ..... | April 26 ..... | 89 .....   |        |
| Cuba .....      | Pacific Mail Steamship Co.   | April 27 ..... | April 27 ..... | 32 .....   |        |
| Manavi .....    | Pacific Steam Navigation Co. | April 27 ..... | April 27 ..... |            | 4      |
| Jamaica .....   | Pacific Steam Navigation Co. | April 28 ..... | April 28 ..... | 1 .....    |        |

# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending April 29, 1922.

| Name of vessel.      | Line or charterer.             | Arrived. | Departed. | Cargo—       |              |
|----------------------|--------------------------------|----------|-----------|--------------|--------------|
|                      |                                |          |           | Discharged   | Laded.       |
|                      |                                |          |           | <i>Tons.</i> | <i>Tons.</i> |
| Orange-Nassau        | Royal Netherlands W. I. Mail   | April 23 | April 23  | 10           | 76           |
| Abangarez            | United Fruit Co                | April 23 | April 24  |              | 238          |
| Gen. G. W. Goethals. | Panama Railroad Steamship Line | April 23 | April 26  | 1,185        | 1,341        |
| Camden               | United Fruit Co                | April 24 | April 26  | 8,910        |              |
| Essequibo            | Pacific Steam Navigation Co.   | April 24 | April 24  | 30           | 32           |
| Canca                | Pacific Steam Navigation Co.   | April 25 |           | 1,243        |              |
| Santa Ana            | Pacific Mail Steamship Co      |          | April 25  |              | 23           |
| Tolosa               | United Fruit Co.               | April 25 | April 26  | 243          | 14           |
| Oriana               | Pacific Steam Navigation Co.   | April 25 | April 26  | 5            |              |
| San Gil              | United Fruit Co                | April 25 | April 27  | 14           | 296          |
| Manavi               | Pacific Steam Navigation Co    |          | April 27  |              | 514          |
| Perou                | French Line                    | April 25 | April 28  | 33           | 726          |
| Hermes               | Royal Netherlands W. I. Mail   | April 25 | April 26  | 37           |              |
| Parismina            | United Fruit Co                | April 25 | April 27  | 795          | 39           |
| Almagro              | Pacific Steam Navigation Co.   | April 26 | April 26  | 262          |              |
| Holmina              | Panama Agencies                | April 27 | April 27  |              | 379          |
| Cuba                 | Pacific Mail Steamship Co.     | April 27 |           | 1,955        |              |
| Abangarez            | United Fruit Co                | April 27 | April 27  |              | 220          |
| Advance              | Panama Railroad Steamship Line | April 28 |           | 238          |              |
| Jamaica              | Pacific Steam Navigation Co.   | April 28 |           | 112          |              |
| Camito               | United Fruit Co                | April 29 | April 29  | 15           |              |
| Acajutla             | Pacific Steam Navigation Co.   | April 29 |           | 960          |              |
| Cardiganshire        | Pacific Steam Navigation Co.   | April 29 |           | 190          |              |
| Settler              | Leyland-Harrison Line.         | April 29 |           | 465          |              |
| Conde de Churrua     | Anglo-Saxon Petroleum Co.      | April 29 |           | 6,225        |              |
| Imperial             | South American Steamship Line  | April 29 |           | 701          |              |
| Cape Henry           | Atlantic, Gulf and Pacific Co. | April 29 |           | 261          |              |

\* Pounds.

## Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective April 15, 1922:

| Commodities.                                                 | Unit.          | Price. |
|--------------------------------------------------------------|----------------|--------|
| Brass, bar, average                                          | Lb.            | \$0.20 |
| Brass, sheet, average                                        | Lb.            | .31    |
| Bronze, Tobin, average                                       | Lb.            | .25    |
| Gasoline, motor grade                                        | Gal.           | 31.23  |
| Metal, yellow                                                | Lb.            | .34    |
| Oakum, Navy, spun                                            | Lb.            | .11    |
| Oakum, Navy, unspun                                          | Lb.            | .14    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge        | Bbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge    | Bbl of 42 gals | 1.79   |
| Oil, ammonia, cylinder                                       | Gal.           | .51    |
| Oil, burning                                                 | Gal.           | 1.06   |
| Oil, engine, gas, in barrels                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums                            | Gal.           | .50    |
| Oil, engine, gas, heavy, in barrels                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels                    | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in drums                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums | Gal.           | .40    |
| Oil, kerosene, in drums                                      | Gal.           | .21    |
| Oil, marine engine                                           | Gal.           | 1.04   |
| Oil, marine engine                                           | Gal.           | .56    |
| Paint, lead, white, dry                                      | Lb.            | .09    |
| Paint, lead, white, in oil                                   | Lb.            | .09    |
| Paint, zinc, white, dry                                      | Lb.            | .16    |
| Paint, zinc, white, in oil                                   | Lb.            | .12½   |
| Grease, gear, chain and wire rope, lubricating               | Lb.            | .09    |
| Grease, yellow, cup, No. 3                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5                                   | Lb.            | .09    |
| Soda, ash                                                    | Lb.            | .03    |
| Waste, cotton, colored                                       | Lb.            | .14    |
| Waste, cotton, white                                         | Lb.            | .15    |

## Sale of Motor-driven and Animal-drawn Vehicles.

Sealed bids will be received in the office of the Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z., up to 10.30 a. m., Monday, May 15, 1922, and then opened, for the purchase of the following vehicles located at the points indicated: At the Ancon Garage—4 Ford auto delivery cars, 1 Ford dump car, 1 Ford garbage

car, 1 White motor truck, 4 auto trailers, 1 survey, 1 wagon, 1 wagonette, 2 wooden bodies for Ford delivery cars. At the General Storehouse, Balboa—6 wagons and 2 auto trailers. At the storehouse, Cristobal—13 wagons. Inspection of the vehicles may be made and forms of proposal may be had at the points indicated, or on application to the office of the Chief Quartermaster. The Panama Canal reserves the right to reject any or all bids.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.  
PUBLISHED WEEKLY.



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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., May 10, 1922.

No. 39.

## Three Optional Forms of Salvage Contract.

As noted in the article on The Panama Canal Salvage Section in THE PANAMA CANAL RECORD of April 19, The Panama Canal will undertake salvage operations under three forms of contract—a *per diem* basis, a lump sum agreement, or an agreement of “no cure, no pay.” In order to expedite salvaging through minimizing the delay over terms, the Canal has prepared copies of the three types of agreement and is distributing them to steamship operators so that they may have them at hand for the emergency as well as familiarize themselves with the situation in advance.

The salvage agreement on a *per diem* basis, designated as Contract No. 1, is as follows:

Contract No. 1.

### THE PANAMA CANAL.

CANAL ZONE.

DEPARTMENT OF OPERATION AND MAINTENANCE.

SALVAGE SECTION.

### SALVAGE AGREEMENT ON PER DIEM BASIS.

AGREEMENT entered into this date between .....  
Acting for the Owners and Underwriters of the .....  
and her cargo according to their respective interest, and, .....  
on behalf of The Panama Canal (Salvage Section):

(1) The said ..... on behalf of The Panama Canal (Salvage Section) agrees to undertake the floating of the above-named ..... and deliver her to ..... or such other place or port as may hereafter be agreed upon by both parties named in this contract. It is further agreed that should the Salvors be detained after delivery of said vessel to the port or place agreed upon, they are to be paid for all expenses incurred, by the Owners or Underwriters.

(2) It is further agreed that for the above services the Salvors are to be paid at the rate of ..... \$..... U. S. C. per day while actually engaged in salvage operation, and at the rate of ..... \$..... U. S. C., while laying by. This time to be computed by the Salvors, and time to start from the time the Salvors leave port until their return. If is further agreed that the Salvors shall have a lien on said vessel, her gear, tackle, stores, supplies, equipment, machinery, and cargo salvaged in either case, Success or Failure, for their remuneration.

(3) It is further agreed that the Salvors are to have FREE use of said vessel's gear, tackle, stores, supplies, etc., for the purpose of salvage, and NOT to be responsible for any loss or damage to said vessel, gear, tackle, stores, and cargo, but to use ordinary care.

(4) It is further agreed that for the use, and loss, of extra equipment that may be necessary in salvaging the said vessel, such as pumps, hose, anchors, chain, rope, diver and diving equipment, barges, lighters, etc., the Owners or Underwriters are to pay The Panama Canal “Tariff Rate or Rates,” as stated in Panama Canal Tariff No. .... and its supplements as may be issued from time to time, in addition to the daily rate as stated in paragraph No. 2 of this contract.

(5) Payment for said services to be made within..... after delivery of vessel to port or place agreed upon in paragraph No. 1 of this contract, or within ..... days after the vessel is abandoned in case of failure.

(6) In the event of any dispute arising under the terms of this contract, the same to be left to the final decision of an Arbitrator to be mutually chosen.

.....  
(For the Owners and Underwriters.)

.....  
(For The Panama Canal—Salvage Section.)

Witness:

.....  
(Name.)

.....  
(Occupation.)

.....  
(Address.)

#### LUMP SUM SALVAGE AGREEMENT.

The lump sum salvage agreement, designated as Contract No. 2, has the same introduction and provisions for signatures and witnesses as the *per diem* agreement, but makes the following-numbered conditions:

(1) The said..... on behalf of The Panama Canal (Salvage Section) agrees to undertake the floating of the above-named..... and deliver her to..... or such other place or port as may hereafter be agreed upon between both parties named in this contract. It is further agreed, that should the Salvors be detained after delivery of said vessel to the port or place agreed upon, they are to be reimbursed by Owners or Underwriters for all expenses incurred.

(2) It is further agreed that for the above-named services the Salvors are to be paid the sum of..... \$..... U. S. C. in case of success, and a minimum sum of..... \$..... U. S. C. in case of failure. The Salvors shall have a lien on said vessel, her gear, tackle, stores, supplies, equipment, machinery, and cargo salvaged for their remuneration.

(3) The Salvors to have FREE use of said vessel's gear, tackle, stores, supplies, etc., for the purpose of salvage, and NOT to be responsible for any loss or damage to said vessel's gear, tackle, stores, supplies, and cargo, but to use ordinary care.

(4) Payment for said services to be made within..... days after delivery of vessel to the place or port agreed upon in paragraph 1 of this contract, or within..... days after abandonment if the salvage operation is unsuccessful.

(5) In the event of any dispute arising under the terms of this contract, the same to be left to the final decision of an Arbitrator to be mutually chosen.

"NO CURE, NO PAY."

This agreement, No. 3, with customary introduction and signatures, provides:

(1) The said..... on behalf of The Panama Canal (Salvage Section) agrees to undertake the floating of the above-named..... and deliver her to..... or such other place or port as may hereafter be agreed upon by both parties.

(2) It is further agreed that for the above services The Panama Canal shall be paid the sum of..... \$..... U. S. C. in case of success, and a minimum of..... per cent of the value or proceeds of all property, equipment, machinery, gear, tackle, and ship's stores, and cargo salvaged in case of partial success, The Panama Canal shall have a lien on the cargo salvaged for their remuneration.

(3) The Panama Canal (Salvage Section) to have free use of the vessel's gear, tackle, stores, fuel, coal or oil, and any other material for the purpose of salvage, and NOT to be responsible for any loss or damage to ship's cargo, gear, tackle, stores, etc., but to use ordinary care.

(4) In the event of any dispute arising under the terms of this contract, the same to be left to the final decision of an Arbitrator, to be mutually chosen.

(5) Payment to be made within..... days after delivery of said vessel to port agreed upon as stated in paragraph 1 of this contract.

(6) All or any expenses incurred after delivery of said vessel to be borne entirely by the Owners or Underwriters.



**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 2, 1922.

The master of the steamship *San Ubaldo* reports:

"At 15 h. 30 m. T. M. T., April 30, in Lat. 17° 35' N., Long. 72° 56' W., passed spar projecting 3 feet above water, apparently attached submerged wreckage. Dangerous to navigation."

JAY J. MORROW,  
Governor.

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**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 3, 1922.

The master of the steamship *Port Augusta* reported by radio yesterday as follows:

"At 9 h. G. M. T., May 2, at 5° 38' N., Long., 81° 56' W., passed wooden vessel awash, 70 feet long. Name undecipherable. Dangerous to navigation."

"Robinson, master."

JAY J. MORROW,  
Governor.

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**Notice to Mariners.—Aids to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 4, 1922.

The following information has been received from the Agent of the Leyland-Harrison Line at Cartagena, Colombia:

"On the 29th instant there will be started the service of a lighthouse erected on the island called 'Tesorito.' The position of the light is as follows:

"Lat. 10° 14' 10" North.

"Long. 75° 44' 50" West.

"White, intermittent, height 35 feet above sea level."

This light is probably on Isla Tesoro, just off the Cartagena Harbor.

JAY J. MORROW,  
Governor.

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**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 4, 1922.

The master of the *Yankee Arrow* reports to-day by radio:

"Passed obstruction, May 3, 12.38 p. m., a trunk of tree, 60 feet long, partly submerged, 8½ miles, 222° true to Jicaron Island. Dangerous to navigation."

JAY J. MORROW,  
Governor.

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**Notice to Mariners—Aids to Mariners, the Isla Grande Light.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 9, 1922.

The navigating officer of the American steamship *Scottsburg* reports under date of May 4:

"At 3.10 a. m., 75th Mer. time, we observed Isla Grande light to be extinguished on bearing 130° true; the light remained extinguished for 25 minutes. Lat. 9° 38' N., Long., 79° 34' W."

This office is receiving many similar reports of nonoperation of this light in the early morning hours, and shipping is hereby warned of its unreliability.

JAY J. MORROW,  
Governor.

# **MOVEMENTS OF OCEAN VESSELS.** *Week ending at midnight, May 6, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                  | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                               | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.             |        | Panama Canal tonnage. |       |
|------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-------------------------------------|---------|-------|-------------------|---------------|----------------|--------------------|--------|-----------------------|-------|
|                        | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                     |         |       |                   |               |                | Nature.            | Tons.  | Gross.                | Net.  |
| Cauca Republic.        | 25               | 15.20 | 30             | 6.10  | 30                 | 14.22 | 30               | 16.40 | British.     | Pacific Steam Navigation Co.        | 246.0   | 35.0  | 16.8              | Cristobal.    | Champerico.    | General.           | 1,330  | 1,589                 | 1,018 |
| Australrag.            | 29               | 15.48 | 30             | 6.30  | 30                 | 14.27 | 30               | 16.05 | American.    | Chile Steamship Co.                 | 345.0   | 49.0  | 21.0              | Baltimore.    | Valparaiso.    | General.           | 3,682  | 4,383                 | 3,006 |
| Amstraling.            | 29               | 18.04 | 30             | 7.35  | 30                 | 15.26 | 30               | 19.46 | British.     | Commonwealth Government.            | 376.3   | 52.3  | 20.0              | London.       | Brisbane.      | General.           | 1,996  | 4,774                 | 3,446 |
| Semiramis.             | 30               | 6.15  | 30             | 11.15 | 30                 | 18.40 | 30               | 19.46 | Dutch.       | Nederlandsche Indian Tank Co.       | 412.0   | 53.3  | 25.0              | New Orleans.  | Shanghai.      | Kerosene.          | 7,283  | 6,298                 | 4,317 |
| Eiger.                 | 30               | 6.45  | 30             | 11.40 | 30                 | 18.42 | 30               | 19.58 | Norwegian.   | Camillo Elitzen & Co.               | 231.5   | 35.3  | 13.6              | New York.     | Guayaquil.     | General.           | 434    | 1,471                 | 999   |
| Cape Henry.            | 29               | 17.58 | 30             | 13.05 | 30                 | 20.18 | 30               | 21.57 | American.    | Atl. Gulf & Pac. Co. (S. B.).       | 376.4   | 52.3  | 22.6              | Baltimore.    | New York.      | General.           | 3,962  | 5,148                 | 3,523 |
| Port Augusta.          | 30               | 20.04 | 1              | 6.20  | 1                  | 13.54 | 1                | 15.10 | British.     | Commonwealth and Dom Line           | 389.0   | 49.0  | 23.1              | New York      | Auckland       | General.           | 5,500  | 5,192                 | 3,854 |
| La Paz.                | 30               | 7.57  | 1              | 7.11  | 1                  | 14.57 | 1                | 19.45 | British.     | Pacific Steam Navigation Co.        | 406.0   | 54.2  | 26.6              | Hamburg.      | Coronel.       | General.           | 8,557  | 7,216                 | 4,912 |
| Birmingham.            | 27               | 19.05 | 1              | 8.19  | 1                  | 14.58 | 1                | 18.38 | American.    | United States Navy.                 | 420.0   | 47.0  | 21.6              | Cristobal.    | Bahia.         | Ballast.           | 6,437  | 4,442                 |       |
| Caddo.                 | 1                | 1.15  | 1              | 8.53  | 1                  | 16.00 | 1                | 21.05 | American.    | Standard Oil Co.                    | 414.5   | 55.0  | 19.6              | New York.     | Talara.        | General.           | 8,714  | 7,651                 | 5,425 |
| Tsuyama Maru.          | 1                | 7.14  | 1              | 9.33  | 1                  | 16.52 | 1                | 17.57 | Japanese.    | Nippon Yusen Kaisha.                | 445.0   | 58.0  | 25.6              | New York.     | Yokohama.      | General.           | 10,992 | 9,019                 | 6,226 |
| William Penn.          | 1                | 7.30  | 1              | 10.30 | 1                  | 17.43 | 1                | 18.38 | American.    | Barber Line (S. B.).                | 439.6   | 60.2  | 30.0              | New York.     | Yokohama.      | General.           | 3,200  | 6,033                 | 4,353 |
| Venezuela.             | 2                | 2.30  | 1              | 11.05 | 1                  | 17.58 | 1                | 17.25 | American.    | Pacific Mail Steamship Co.          | 380.0   | 48.7  | 24.3              | New York.     | San Francisco. | General.           | 10,908 | 8,622                 | 6,293 |
| Eastern Trader.        | 1                | 7.58  | 1              | 12.08 | 1                  | 19.14 | 2                | 17.55 | American.    | Tampa Intercoast S. S. Co. (S. B.). | 445.0   | 58.0  | 30.6              | New Orleans.  | Shanghai.      | General.           | 11,031 | 9,841                 | 6,946 |
| Yankee Arrow.          | 1                | 18.57 | 2              | 6.20  | 2                  | 14.24 | 2                | 15.50 | British.     | Standard Oil Co.                    | 408.3   | 62.7  | 27.0              | Sabine.       | Woosung.       | Oil.               | 11,031 | 9,841                 | 6,946 |
| Cardiganhire.          | 29               | 20.00 | 2              | 7.19  | 2                  | 15.15 | 2                | 16.30 | British.     | Royal Mail Steam Packet Co.         | 516.0   | 62.0  | 22.3              | London.       | Los Angeles.   | General, glass.    | 4,218  | 11,420                | 8,385 |
| Imperial.              | 29               | 18.13 | 3              | 6.08  | 3                  | 13.58 | 3                | 21.13 | Chilean.     | Chilean Line.                       | 336.8   | 41.2  | 24.3              | Cristobal.    | Valparaiso.    | General.           | 375    | 3,296                 | 2,156 |
| Freight Sulphur No. 5. | 3                | 5.52  | 3              | 6.23  | 3                  | 14.51 | 4                | 20.08 | American.    | Freeport Sulphur Trans. Co.         | 356.0   | 51.2  | 23.0              | Texas City.   | San Francisco. | Sulphur.           | 5,723  | 4,940                 | 3,316 |
| Chicago Maru.          | 3                | 5.42  | 3              | 7.10  | 3                  | 15.17 | 3                | 17.17 | Japanese.    | Osaka Shosen Kaisha.                | 410.0   | 52.0  | 25.0              | Buenos Aires. | Kobe.          | Gen., iron goods.  | 4,876  | 6,123                 | 4,282 |
| Mexican.               | 3                | 7.05  | 3              | 8.26  | 3                  | 15.44 | 3                | 16.55 | Japanese.    | American-Hawaiian Line.             | 472.0   | 57.2  | 23.0              | New York.     | Los Angeles.   | General.           | 4,536  | 9,258                 | 6,912 |
| Rosier.                | 3                | 6.53  | 3              | 9.19  | 3                  | 17.25 | 4                | 19.16 | British.     | Andrew Weir & Co.                   | 405.0   | 52.0  | 25.6              | New York.     | Manila.        | General.           | 6,703  | 6,181                 | 4,728 |
| Sun Ubaldo.            | 3                | 10.32 | 3              | 10.45 | 3                  | 18.26 | 3                | 19.54 | British.     | Eagle Oil Transport Co.             | 412.0   | 53.4  | 20.5              | Tampico.      | Valparaiso.    | Gasoline, etc.     | 7,048  | 6,232                 | 4,274 |
| Hualalra.              | 30               | 16.40 | 3              | 11.05 | 3                  | 19.06 | 3                | 20.31 | Peruvian.    | Peruvian Line.                      | 360.0   | 44.7  | 20.3              | Cristobal.    | Callao.        | General.           | 315    | 4,514                 | 2,386 |
| Andrea F.              | 3                | 11.00 | 3              | 11.50 | 3                  | 19.38 | 3                | 20.55 | American.    | Lukenbach Line.                     | 496.0   | 68.0  | 24.0              | New York.     | Los Angeles.   | General.           | 5,200  | 11,487                | 8,732 |
| San Leonardo.          | 3                | 14.06 | 4              | 6.15  | 4                  | 14.22 | 4                | 15.40 | British.     | Eagle Oil Transport Co.             | 401.0   | 54.2  | 25.0              | Hamburg.      | Cruz Grande.   | Fuel oil.          | 7,108  | 6,218                 | 3,893 |
| Alta.                  | 3                | 14.55 | 4              | 7.05  | 4                  | 15.15 | 4                | 16.35 | German.      | Roland Line.                        | 360.0   | 51.0  | 22.0              | Tampico.      | Corral.        | General, mach.     | 3,700  | 4,791                 | 3,392 |
| Lompoe.                | 3                | 23.05 | 4              | 7.58  | 4                  | 16.30 | 4                | 18.03 | British.     | C. T. Bowring & Co.                 | 435.0   | 55.0  | 27.0              | Tampico.      | Toconilla.     | Fuel oil.          | 9,600  | 7,496                 | 5,311 |
| Tofukin Maru.          | 3                | 20.58 | 4              | 9.45  | 4                  | 17.56 | 4                | 19.05 | Japanese.    | Kokusa Kisen Kaisha.                | 385.0   | 51.0  | 27.0              | New York.     | Yokohama.      | Steel.             | 7,069  | 5,919                 | 4,400 |
| Tuscaloosa City.       | 4                | 10.40 | 4              | 10.50 | 4                  | 18.38 | 4                | 19.55 | American.    | United States Steel Products Co.    | 424.2   | 56.0  | 27.3              | Mobile.       | Manila.        | General.           | 8,170  | 7,611                 | 5,450 |
| Cuba.                  | 27               | 22.00 | 4              | 11.50 | 4                  | 18.53 | 4                | 19.55 | American.    | Pacific Mail Steamship Co.          | 307.8   | 42.2  | 21.0              | Cristobal.    | San Francisco. | General.           | 2,343  | 3,426                 | 2,206 |
| Gold Harbor.           | 4                | 13.48 | 5              | 6.22  | 5                  | 14.01 | 5                | 15.20 | American.    | N. Atl. & West S. S. Co. (S. B.).   | 390.0   | 54.2  | 23.1              | Philadelphia. | Los Angeles.   | General.           | 5,818  | 6,167                 | 4,313 |
| Scottsboro.            | 4                | 7.55  | 5              | 6.55  | 5                  | 17.43 | 5                | 16.50 | American.    | Barber Line (S. B.).                | 419.5   | 56.5  | 31.0              | New York.     | Shanghai.      | General.           | 10,467 | 8,696                 | 6,316 |
| Touawanda.             | 4                | 7.55  | 5              | 7.53  | 5                  | 17.43 | 5                | 20.33 | American.    | Columbia River Packing Assn.        | 254.0   | 38.1  | 26.8              | New York.     | Astoria.       | Coal.              | 2,506  | 1,780                 | 1,620 |
| Borland.               | 5                | 18.50 | 6              | 6.23  | 6                  | 13.54 | 7                | 1.03  | Norwegian.   | Peter Olsen.                        | 372.0   | 51.5  | 18.7              | Amsterp.      | San Francisco. | General.           | 2,960  | 5,274                 | 3,886 |
| Greifland.             | 5                | 18.58 | 6              | 6.28  | 6                  | 13.61 | 7                | 15.45 | British.     | Guilford Steamship and Industrials. | 362.2   | 51.1  | 22.5              | New York.     | Shanghai.      | General, case oil. | 5,100  | 4,504                 | 3,340 |
| No. 4008.              | 6                | 10.25 | 6              | 10.40 | 6                  | 16.45 | 6                | 22.40 | American.    | Cayzer Irvine & Co.                 | 254.9   | 35.0  | 14.6              | Cristobal.    | Darien.        | Ballast.           |        |                       |       |
| Guerrero.              | 6                | 10.25 | 6              | 10.40 | 6                  | 16.45 | 6                | 22.40 | Mexican.     |                                     |         |       |                   | Portsmouth.   | Salina Cruz.   |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |
|                        |                  |       |                |       |                    |       |                  |       |              |                                     |         |       |                   |               |                |                    |        |                       |       |

\* Launch.

\* Sailing ship.

\* Cruiser.

\* Motor ship.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                     |    |    |    |    |    |    |    |    |    |    |    |    |           |                                  |     |   |    |   |    |    |                |             |                |     |     |     |     |     |     |
|---------------------|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------------------------|-----|---|----|---|----|----|----------------|-------------|----------------|-----|-----|-----|-----|-----|-----|
| Stanley Dollar      | 29 | 15 | 00 | 30 | 6  | 42 | 30 | 15 | 50 | 30 | 19 | 40 | American  | Dollar Line                      | 288 | 8 | 44 | 6 | 18 | 7  | Vancouver      | Baltimore   | General        | 2   | 800 | 3   | 460 | 2   | 404 |
| Hector              | 30 | 7  | 30 | 30 | 7  | 50 | 30 | 16 | 15 | 30 | 19 | 00 | British   | Ocean Steamship Co               | 331 | 5 | 47 | 2 | 23 | 8  | Vancouver      | London      | General        | 5   | 093 | 4   | 824 | 3   | 443 |
| Hualaga             | 30 | 7  | 30 | 30 | 9  | 38 | 30 | 16 | 40 | 3  | 11 | 05 | Peruvian  | Peruvian Line                    | 360 | 0 | 44 | 7 | 21 | 0  | Callao         | Cristobal   | General        | 8   | 800 | 6   | 652 | 4   | 825 |
| Cacique             | 30 | 9  | 10 | 30 | 10 | 30 | 30 | 18 | 30 | 30 | 21 | 30 | American  | Grace Line                       | 384 | 2 | 52 | 3 | 29 | 0  | Tocopilla      | Charleston  | Nitrate        | 4   | 300 | 5   | 988 | 4   | 913 |
| American            | 1  | 4  | 00 | 1  | 7  | 31 | 1  | 15 | 15 | 1  | 19 | 15 | American  | American-Hawaiian Line           | 400 | 8 | 51 | 1 | 23 | 0  | Seattle        | Boston      | General        | 3   | 906 | 5   | 726 | 4   | 086 |
| Santa Teresa        | 1  | 4  | 00 | 1  | 8  | 15 | 1  | 15 | 15 | 1  | 19 | 15 | American  | Grace Line                       | 360 | 2 | 51 | 6 | 25 | 0  | Talcahuano     | New York    | General        | 8   | 803 | 1   | 496 | 1   | 040 |
| Varg                | 1  | 10 | 00 | 1  | 17 | 46 | 1  | 17 | 45 | 1  | 17 | 12 | Norwegian | P. Johannesen                    | 331 | 7 | 35 | 1 | 14 | 0  | Guayaquil      | Hamburg     | Coffee, sugar  | 2   | 020 | 2   | 188 | 1   | 361 |
| Nuria               | 2  | 5  | 15 | 2  | 7  | 30 | 2  | 15 | 10 | 2  | 21 | 20 | German    | Roland Line                      | 269 | 0 | 42 | 0 | 15 | 4  | Salina Cruz    | New York    | Coffee         | 1   | 122 | 2   | 823 | 1   | 730 |
| Santa Eulalia       | 2  | 2  | 30 | 2  | 8  | 19 | 2  | 16 | 10 | 2  | 20 | 30 | American  | American and Cuban Line          | 251 | 0 | 43 | 0 | 18 | 8  | San Francisco  | New York    | Coffee         | 3   | 400 | 4   | 094 | 2   | 924 |
| Theben              | 2  | 14 | 45 | 3  | 6  | 30 | 3  | 15 | 20 | 3  | 20 | 30 | German    | Kosmos Line                      | 339 | 0 | 48 | 0 | 20 | 6  | Mazatlan       | Hamburg     | Coffee, sugar  | 5   | 437 | 12  | 821 | 9   | 807 |
| Corinthie           | 2  | 15 | 53 | 3  | 6  | 32 | 3  | 15 | 37 | 3  | 19 | 37 | British   | Oceanic Steam Navigation Co.     | 500 | 1 | 52 | 0 | 27 | 0  | Wellington     | Southampton | General        | 5   | 000 | 5   | 680 | 4   | 162 |
| Willara             | 2  | 16 | 05 | 3  | 7  | 50 | 3  | 16 | 10 | 3  | 19 | 38 | American  | Williams Steamship Co.           | 386 | 8 | 63 | 2 | 21 | 0  | San Francisco  | New York    | General        | 5   | 827 | 8   | 341 | 6   | 010 |
| Hatipara            | 2  | 18 | 45 | 3  | 8  | 08 | 3  | 16 | 42 | 3  | 17 | 55 | British   | British-India Steam Nav. Co.     | 444 | 5 | 58 | 0 | 23 | 3  | Timaru         | Hull        | General        | 5   | 827 | 8   | 341 | 6   | 010 |
| Florence Luckenbach | 2  | 19 | 15 | 3  | 8  | 55 | 3  | 16 | 37 | 3  | 16 | 37 | American  | Luckenbach Line                  | 401 | 8 | 52 | 4 | 15 | 6  | Portland       | Mobile      | General        | 380 | 6   | 002 | 4   | 621 |     |
| Polittian           | 2  | 22 | 00 | 3  | 9  | 02 | 3  | 17 | 46 | 3  | 18 | 35 | British   | T. and J. Harrison               | 469 | 5 | 56 | 4 | 26 | 5  | Vancouver      | London      | General        | 9   | 525 | 7   | 696 | 5   | 669 |
| Santa Paula         | 2  | 23 | 20 | 3  | 9  | 50 | 3  | 18 | 53 | 3  | 23 | 15 | American  | Grace Line                       | 404 | 6 | 54 | 0 | 28 | 0  | Liquique       | Charleston  | Nitrate        | 8   | 603 | 6   | 744 | 4   | 825 |
| Mobile City         | 3  | 20 | 00 | 4  | 6  | 41 | 4  | 15 | 35 | 4  | 18 | 35 | American  | United States Steel Products Co. | 595 | 5 | 55 | 5 | 22 | 0  | Port Angeles   | New York    | General        | 6   | 000 | 7   | 330 | 5   | 241 |
| Indiana             | 4  | 3  | 30 | 4  | 6  | 41 | 4  | 15 | 55 | 5  | 2  | 54 | French    | French Line                      | 417 | 0 | 56 | 0 | 14 | 0  | Talcahuano     | Habana      | General        | 168 | 7   | 157 | 4   | 536 |     |
| Ansigr              | 4  | 4  | 00 | 4  | 8  | 25 | 4  | 16 | 40 | 5  | 2  | 54 | German    | Roland Line                      | 408 | 0 | 52 | 0 | 24 | 6  | Chile and Peru | Hamburg     | General        | 6   | 670 | 6   | 542 | 4   | 532 |
| Maple Branch        | 4  | 7  | 30 | 4  | 9  | 50 | 4  | 17 | 55 | 4  | 23 | 40 | British   | P. and W. Risdon                 | 400 | 0 | 52 | 0 | 24 | 6  | Valparaiso     | Liverpool   | General        | 7   | 210 | 5   | 618 | 4   | 116 |
| Nordamerica         | 4  | 9  | 45 | 4  | 10 | 25 | 4  | 18 | 40 | 4  | 22 | 20 | Danish    | Northern Steamship Co.           | 308 | 0 | 45 | 2 | 20 | 11 | Valparaiso     | New York    | General        | 4   | 280 | 3   | 322 | 2   | 485 |
| Ecuador             | 4  | 14 | 55 | 5  | 6  | 40 | 5  | 13 | 43 | 6  | 17 | 14 | American  | Pacific Mail Steamship Co.       | 380 | 6 | 48 | 7 | 21 | 6  | San Francisco  | New York    | General        | 4   | 280 | 3   | 322 | 2   | 485 |
| Cape May            | 4  | 16 | 10 | 5  | 7  | 38 | 5  | 15 | 03 | 5  | 16 | 45 | British   | United States Shipping Board     | 380 | 6 | 48 | 7 | 21 | 6  | Sydney         | New York    | General        | 1   | 065 | 7   | 072 | 4   | 044 |
| Calcutta            | 4  | 17 | 35 | 5  | 8  | 04 | 5  | 15 | 45 | 5  | 16 | 05 | British   | British Navy                     | 451 | 0 | 53 | 0 | 17 | 6  | San Diego      | Kingston    | General        | 8   | 500 | 6   | 520 | 4   | 472 |
| Felix Tausig        | 5  | 12 | 25 | 6  | 13 | 04 | 5  | 20 | 04 | 5  | 22 | 12 | American  | Crowell & Thurlow                | 395 | 0 | 55 | 1 | 25 | 6  | Seattle        | Baltimore   | General        | 3   | 250 | 5   | 825 | 4   | 152 |
| Wabash              | 5  | 12 | 25 | 6  | 13 | 04 | 5  | 20 | 04 | 5  | 22 | 12 | American  | N. Atl. & Western S. S. Co.      | 381 | 0 | 49 | 0 | 23 | 0  | Alberdeen      | New York    | General        | 3   | 250 | 5   | 825 | 4   | 152 |
| Dakota              | 6  | 11 | 30 | 6  | 13 | 15 | 6  | 20 | 08 | 7  | 13 | 20 | American  | American-Hawaiian Line           | 407 | 7 | 53 | 7 | 27 | 6  | San Diego      | Hamburg     | General        | 7   | 800 | 7   | 157 | 5   | 058 |
| Laura C. Hall       | 6  | 2  | 10 | 6  | 13 | 42 | 6  | 20 | 46 | 7  | 13 | 20 | British   | Pacific Metals Corporation       | 81  | 0 | 25 | 6 | 10 | 0  | Buenaventura   | Cristobal   | Gold, platinum | 132 | 72  |     |     |     |     |

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

## \*ARRIVALS.

## \*DEPARTURES.

| Date.    | Vessel.   | Line.                          | For—                            |
|----------|-----------|--------------------------------|---------------------------------|
| April 30 | Suriname  | United Fruit Co.               | Royal Netherlands W. I. Mail    |
| May 1    | Arabia    | Panama Plantation Syndicate    | Panama Railroad Steamship Line. |
| May 1    | Cartago   | United Fruit Co.               | Harrison Line                   |
| May 2    | Calamares | United Fruit Co.               | Eastern Commercial of Oriental  |
| May 2    | Metapan   | United Fruit Co.               | United States Army              |
| May 3    | Panama    | Panama Railroad Steamship Line | New York via San Juan           |
| May 4    | Tives     | United Fruit Co.               | United Fruit Co.                |
| May 4    | Zacapa    | United Fruit Co.               | Calamares                       |
| May 6    |           |                                | New Orleans via Bocas del Toro  |

U. S. Army transport.

(Continued on page 506, column 2.)

Motor schooner.

# Commercial Traffic Through the Panama Canal in April, 1922, by Trade Routes.

## ATLANTIC TO PACIFIC.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.       | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|--------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |              |                   |
| <i>United States coastwise:</i>                                         |                 |                           |                   |                   |                 |              | <i>Long tons.</i> |
| United States.....                                                      | 24              | 88,303                    | 114,283           | 136,885           | 87,100          | \$110,272.10 | 137,207           |
| <i>From east coast of United States to Far East:</i>                    |                 |                           |                   |                   |                 |              |                   |
| United States.....                                                      | 6               | 27,866                    | 36,399            | 43,629            | 28,021          | 34,832.50    | 56,565            |
| Japanese.....                                                           | 5               | 20,518                    | 24,693            | 31,609            | 20,169          | 25,468.25    | 39,150            |
| British.....                                                            | 5               | 17,996                    | 23,918            | 28,517            | 18,053          | 22,495.00    | 32,448            |
| Norwegian.....                                                          | 2               | 7,237                     | 8,180             | 11,208            | 6,947           | 9,046.25     | 15,784            |
| Dutch.....                                                              | 1               | 3,694                     | 4,317             | 5,792             | 3,379           | 4,617.50     | 7,233             |
| Totals.....                                                             | 19              | 77,311                    | 97,507            | 120,755           | 76,569          | 96,459.50    | 151,230           |
| <i>From east coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |              |                   |
| United States.....                                                      | 9               | 27,955                    | 33,015            | 42,962            | 27,761          | 33,276.38    | 25,963            |
| British.....                                                            | 4               | 11,065                    | 13,291            | 17,570            | 10,571          | 13,831.25    | 12,249            |
| Norwegian.....                                                          | 3               | 3,590                     | 4,152             | 5,577             | 3,470           | 4,487.50     | 2,296             |
| Danish.....                                                             | 1               | 2,339                     | 3,712             | 3,582             | 2,254           | 2,923.75     | 4,517             |
| Swedish.....                                                            | 1               | 1,349                     | 1,458             | 2,316             | 1,630           | 1,686.25     | 1,130             |
| Totals.....                                                             | 18              | 40,298                    | 55,628            | 72,007            | 45,686          | 56,205.13    | 40,155            |
| <i>From Europe to west coast of South America:</i>                      |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 4               | 16,082                    | 19,238            | 25,400            | 15,785          | 20,102.50    | 12,911            |
| Dutch.....                                                              | 2               | 4,399                     | 7,452             | 7,107             | 4,396           | 5,498.75     | 4,220             |
| German.....                                                             | 1               | 4,446                     | 5,154             | 7,056             | 4,493           | 5,557.50     | 4,360             |
| Danish.....                                                             | 1               | 4,257                     | 5,341             | 6,650             | 4,247           | 5,321.25     | 4,696             |
| Chilean.....                                                            | 1               | 1,473                     | 1,517             | 2,515             | 1,441           | 1,820.40     | 2,700             |
| Totals.....                                                             | 9               | 30,657                    | 38,702            | 48,728            | 30,362          | 38,300.40    | 28,887            |
| <i>From Europe to Australasia:</i>                                      |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 8               | 45,375                    | 57,728            | 72,947            | 45,812          | 56,718.75    | 32,815            |
| <i>From Cristobal to west coast of South America:</i>                   |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 4               | 1,224                     | 1,912             | 2,304             | 1,430           | 1,530.00     | 717               |
| Chilean.....                                                            | 2               | 3,608                     | 6,250             | 7,612             | 4,560           | 4,510.00     | 1,460             |
| Peruvian.....                                                           | 2               | 2,495                     | 5,356             | 8,049             | 4,187           | 3,118.75     | 849               |
| Totals.....                                                             | 8               | 7,327                     | 13,518            | 17,965            | 10,177          | 9,158.75     | 3,026             |
| <i>From Europe to west coast of United States:</i>                      |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 3               | 11,507                    | 15,606            | 18,437            | 11,618          | 12,924.23    | 11,032            |
| Dutch.....                                                              | 1               | 5,776                     | 7,551             | 9,399             | 5,814           | 7,220.00     | 10,165            |
| French.....                                                             | 1               | 4,326                     | 4,363             | 5,903             | 3,743           | 5,235.60     | 3,482             |
| Danish.....                                                             | 1               | 3,244                     | 4,016             | 5,219             | 3,337           | 4,055.00     | 4,375             |
| Totals.....                                                             | 6               | 24,853                    | 31,536            | 38,958            | 24,512          | 29,434.83    | 29,054            |
| <i>From West Indies to Far East:</i>                                    |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 3               | 9,387                     | 12,510            | 15,035            | 9,327           | 11,733.75    | 17,870            |
| Japanese.....                                                           | 2               | 5,780                     | 7,347             | 9,136             | 5,796           | 7,925.00     | 11,999            |
| Totals.....                                                             | 5               | 15,167                    | 19,857            | 24,171            | 15,123          | 18,958.75    | 29,869            |
| <i>From east coast of United States to west coast of Canada:</i>        |                 |                           |                   |                   |                 |              |                   |
| United States.....                                                      | 3               | 15,622                    | 18,665            | 22,792            | 15,627          | 19,527.50    | 22,559            |
| <i>From Cristobal to west coast of Central America:</i>                 |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 3               | 2,145                     | 2,416             | 3,746             | 2,194           | 2,681.25     | 2,504             |
| <i>From east coast of United States to Australasia:</i>                 |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 2               | 9,651                     | 13,513            | 15,024            | 9,547           | 12,063.75    | 16,615            |
| <i>From east coast of Canada to Australasia:</i>                        |                 |                           |                   |                   |                 |              |                   |
| British.....                                                            | 2               | 8,409                     | 10,195            | 14,040            | 8,681           | 10,511.25    | 8,970             |
| <i>From east coast of Mexico to west coast of South America:</i>        |                 |                           |                   |                   |                 |              |                   |
| Norwegian.....                                                          | 1               | 4,418                     | 5,043             | 6,987             | 4,422           | 5,522.50     | 9,200             |
| United States.....                                                      | 1               | 4,328                     | 5,089             | 7,058             | 4,327           | 5,410.00     | 10,400            |
| Totals.....                                                             | 2               | 8,746                     | 10,132            | 14,045            | 8,749           | 10,932.50    | 19,600            |
| <i>From West Indies to west coast of South America:</i>                 |                 |                           |                   |                   |                 |              |                   |
| Norwegian.....                                                          | 1               | 1,608                     | 1,762             | 2,471             | 1,484           | 1,280.16     | 16                |
| British.....                                                            | 1               | 102                       | 152               | 524               | 197             | 109.44       |                   |
| Totals.....                                                             | 2               | 1,710                     | 1,914             | 2,995             | 1,681           | 1,389.60     | 16                |



## ATLANTIC TO PACIFIC.—Continued.

| Route and registry.                                              | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.     | Tons of cargo.    |
|------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------|-------------------|
|                                                                  |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |            |                   |
| <i>From east coast of United States to Balboa, C. Z.:</i>        |                 |                           |                   |                   |                 |            | <i>Long tons.</i> |
| United States.....                                               | 2               | 4,953                     | 6,129             | 8,054             | 4,916           | \$1,872.75 | 1,000             |
| <i>Colombian coastwise:</i>                                      |                 |                           |                   |                   |                 |            |                   |
| Norwegian.....                                                   | 1               | 879                       | 1,457             | 1,462             | 890             | 1,098.75   | 44                |
| British.....                                                     | 1               | 614                       | 622               | 1,138             | 602             | 758.40     | 899               |
| Totals.....                                                      | 2               | 1,493                     | 2,079             | 2,600             | 1,492           | 1,857.15   | 853               |
| <i>From Europe to west coast of Canada:</i>                      |                 |                           |                   |                   |                 |            |                   |
| British.....                                                     | 1               | 5,297                     | 6,334             | 8,401             | 5,341           | 6,621.25   | 3,906             |
| <i>From east coast of Mexico to Balboa, C. Z.:</i>               |                 |                           |                   |                   |                 |            |                   |
| British.....                                                     | 1               | 4,645                     | 5,311             | 7,270             | 4,513           | 5,806.25   | 9,500             |
| <i>From east coast of South America to Far East:</i>             |                 |                           |                   |                   |                 |            |                   |
| Japanese.....                                                    | 1               | 3,645                     | 4,230             | 5,761             | 3,556           | 4,556.25   | 4,758             |
| <i>From east coast of South America to west coast of Canada:</i> |                 |                           |                   |                   |                 |            |                   |
| United States.....                                               | 1               | 3,537                     | 4,901             | 5,657             | 3,537           | 4,421.25   | 6,748             |
| <i>From Europe to Hawaiian Islands:</i>                          |                 |                           |                   |                   |                 |            |                   |
| Swedish.....                                                     | 1               | 2,748                     | 4,536             | 4,521             | 3,424           | 3,435.00   | 7,167             |
| <i>From Cristobal to Gatun Lake:</i>                             |                 |                           |                   |                   |                 |            |                   |
| United States.....                                               | 1               | 1,514                     | 1,574             | 2,733             | 1,667           | 1,135.50   | .....             |
| Totals, April, 1922.....                                         | 121             | 409,406                   | 520,688           | 650,055           | 410,266         | 505,319.46 | 562,433           |
| Totals, March, 1922.....                                         | 138             | 472,020                   | 586,041           | 724,316           | 461,154         | 580,374.55 | 581,952           |
| Totals, April, 1921.....                                         | 118             | 397,568                   | 492,506           | 615,818           | 391,141         | 490,505.91 | 500,801           |

## PACIFIC TO ATLANTIC.

|                                                                         |    |         |         |         |         |              |         |
|-------------------------------------------------------------------------|----|---------|---------|---------|---------|--------------|---------|
| <i>United States coastwise:</i>                                         |    |         |         |         |         |              |         |
| United States.....                                                      | 26 | 104,008 | 131,193 | 161,092 | 104,535 | \$130,010.00 | 118,622 |
| <i>From west coast of South America to east coast of United States:</i> |    |         |         |         |         |              |         |
| United States.....                                                      | 8  | 24,748  | 29,761  | 39,679  | 25,050  | 30,931.30    | 48,326  |
| British.....                                                            | 5  | 17,483  | 22,415  | 28,932  | 17,892  | 21,833.75    | 29,659  |
| Norwegian.....                                                          | 3  | 4,091   | 6,425   | 6,784   | 4,069   | 5,113.75     | 8,377   |
| Swedish.....                                                            | 1  | 1,340   | 1,399   | 2,257   | 1,583   | 1,675.00     | 2,675   |
| Totals.....                                                             | 17 | 47,662  | 60,000  | 77,652  | 48,604  | 59,573.89    | 89,037  |
| <i>From west coast of South America to Europe:</i>                      |    |         |         |         |         |              |         |
| British.....                                                            | 6  | 18,220  | 25,292  | 29,929  | 18,217  | 22,775.00    | 31,574  |
| German.....                                                             | 2  | 7,483   | 9,933   | 11,971  | 7,554   | 9,353.75     | 14,200  |
| French.....                                                             | 1  | 3,600   | 4,146   | 5,765   | 3,681   | 4,500.00     | 6,450   |
| Chilean.....                                                            | 1  | 2,754   | 3,442   | 5,961   | 2,981   | 3,442.50     | 1,720   |
| Dutch.....                                                              | 1  | 2,494   | 3,195   | 4,385   | 3,195   | 3,117.50     | 2,175   |
| Totals.....                                                             | 11 | 34,551  | 46,008  | 58,011  | 35,628  | 43,188.75    | 56,119  |
| <i>From west coast of South America to Cristobal, C. Z.:</i>            |    |         |         |         |         |              |         |
| British.....                                                            | 4  | 1,224   | 1,912   | 2,303   | 1,430   | 1,530.00     | 310     |
| Chilean.....                                                            | 3  | 4,883   | 8,406   | 10,341  | 6,193   | 6,103.75     | 927     |
| Peruvian.....                                                           | 3  | 3,699   | 7,742   | 12,452  | 6,277   | 4,623.75     | 5,249   |
| Totals.....                                                             | 10 | 9,806   | 18,060  | 25,096  | 13,900  | 12,257.50    | 6,486   |
| <i>From Australasia to Europe:</i>                                      |    |         |         |         |         |              |         |
| British.....                                                            | 8  | 45,571  | 51,532  | 67,112  | 43,592  | 56,375.60    | 46,720  |
| Japanese.....                                                           | 1  | 3,368   | 4,598   | 5,446   | 3,311   | 4,210.00     | 3,462   |
| Totals.....                                                             | 9  | 48,939  | 56,130  | 72,558  | 46,903  | 60,585.60    | 50,182  |
| <i>From west coast of United States to Europe:</i>                      |    |         |         |         |         |              |         |
| United States.....                                                      | 3  | 13,962  | 20,029  | 22,195  | 14,032  | 17,452.50    | 27,500  |
| British.....                                                            | 2  | 9,342   | 9,664   | 9,718   | 5,976   | 11,478.15    | 11,435  |
| Danish.....                                                             | 1  | 4,473   | 5,588   | 7,014   | 4,470   | 5,591.25     | 9,004   |
| Japanese.....                                                           | 1  | 4,357   | 4,400   | 5,857   | 4,259   | 5,280.00     | 7,429   |
| Totals.....                                                             | 7  | 32,134  | 39,681  | 44,784  | 28,737  | 39,801.90    | 55,368  |
| <i>From Far East to east coast of United States:</i>                    |    |         |         |         |         |              |         |
| Japanese.....                                                           | 3  | 13,092  | 15,019  | 19,642  | 12,922  | 16,167.95    | 17,560  |
| United States.....                                                      | 3  | 12,555  | 16,950  | 20,046  | 12,546  | 15,693.75    | 16,314  |
| Totals.....                                                             | 6  | 25,647  | 31,969  | 39,688  | 25,468  | 31,861.70    | 33,874  |

## PACIFIC TO ATLANTIC.—Continued.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.     | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |            |                   |
| <i>From west coast of Canada to Europe:</i>                             |                 |                           |                   |                   |                 |            | <i>Long tons.</i> |
| Dutch.....                                                              | 1               | 5,403                     | 6,612             | 8,384             | 5,437           | \$6,753.75 | 10,790            |
| French.....                                                             | 1               | 4,483                     | 4,515             | 4,731             | 2,912           | 5,488.80   | 6,722             |
| United States.....                                                      | 1               | 3,160                     | 4,449             | 5,102             | 3,164           | 3,950.00   | 6,631             |
| British.....                                                            | 1               | 2,801                     | 3,443             | 4,510             | 2,842           | 3,501.25   | 5,227             |
| Totals.....                                                             | 4               | 15,847                    | 19,019            | 22,727            | 14,355          | 19,693.80  | 29,370            |
| <i>From west coast of Central America to Cristobal:</i>                 |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 4               | 2,783                     | 3,122             | 4,916             | 2,848           | 3,478.75   | 4,093             |
| <i>From Australasia to east coast of United States:</i>                 |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 2               | 8,773                     | 8,783             | 11,550            | 8,688           | 10,539.60  | 6,900             |
| British.....                                                            | 1               | 5,024                     | 5,078             | 6,957             | 5,104           | 6,093.60   | 3,432             |
| Totals.....                                                             | 3               | 13,797                    | 13,861            | 18,507            | 13,792          | 16,633.20  | 10,332            |
| <i>From Balboa, C. Z., to east coast of Mexico:</i>                     |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 4,645                     | 5,311             | 7,270             | 4,513           | 3,823.92   | .....             |
| United States.....                                                      | 1               | 1,119                     | 1,304             | 1,779             | 1,082           | 938.88     | .....             |
| Totals.....                                                             | 2               | 5,764                     | 6,615             | 9,049             | 5,595           | 4,762.80   | .....             |
| <i>From west coast of Canada to east coast of United States:</i>        |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 2               | 4,335                     | 5,064             | 6,562             | 4,353           | 5,269.80   | 6,634             |
| <i>From Australasia to east coast of Canada:</i>                        |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 4,403                     | 5,494             | 7,178             | 4,413           | 5,503.75   | 2,260             |
| <i>From Hawaiian Islands to Europe:</i>                                 |                 |                           |                   |                   |                 |            |                   |
| Swedish.....                                                            | 1               | 3,430                     | 5,533             | 5,554             | 4,225           | 4,287.50   | 9,044             |
| <i>From west coast of United States to east coast of South America:</i> |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 1               | 3,034                     | 4,174             | 4,748             | 2,925           | 3,792.50   | 5,716             |
| <i>From west coast of United States to South Africa:</i>                |                 |                           |                   |                   |                 |            |                   |
| Dutch.....                                                              | 1               | 2,252                     | 3,524             | 3,699             | 2,226           | 2,815.00   | 4,581             |
| <i>From west coast of United States to Cristobal, C. Z.:</i>            |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 1               | 1,862                     | 2,206             | 3,169             | 1,862           | 2,327.50   | 1,777             |
| <i>From west coast of United States to east coast of Canada:</i>        |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 1,556                     | 1,718             | 2,631             | 1,394           | 1,236.96   | .....             |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 614                       | 622               | 1,138             | 602             | 746.40     | 119               |
| <i>From west coast of South America to West Indies:</i>                 |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 102                       | 152               | 524               | 197             | 109.44     | .....             |
| Totals, April, 1922.....                                                | 109             | 362,526                   | 454,145           | 569,283           | 362,562         | 447,936.65 | 483,614           |
| Totals, March, 1922.....                                                | 96              | 314,739                   | 389,770           | 502,655           | 314,880         | 376,352.21 | 378,137           |
| Totals, April, 1921.....                                                | 109             | 373,548                   | 462,997           | 587,269           | 366,435         | 437,471.18 | 406,812           |

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending May 6, 1922.

| Name of vessel.    | Line or charterer.                 | Arrived.      | Departed.     | Cargo—       |              |
|--------------------|------------------------------------|---------------|---------------|--------------|--------------|
|                    |                                    |               |               | Discharged   | Laded.       |
|                    |                                    |               |               | <i>Tons.</i> | <i>Tons.</i> |
| La Paz.....        | Pacific Steam Navigation Co.....   | April 30..... | April 30..... | 27           | .....        |
| Huallaga.....      | Peruvian Line.....                 | April 30..... | April 30..... | 1,870        | .....        |
| Gold Star.....     | United States Government.....      | April 30..... | May 2.....    | 4            | .....        |
| Venezuela.....     | Pacific Mail Steamship Co.....     | May 1.....    | May 2.....    | 31           | 4            |
| Cuba.....          | Pacific Mail Steamship Co.....     | May 4.....    | May 4.....    | .....        | 32           |
| Ecuador.....       | Pacific Mail Steamship Co.....     | May 4.....    | May 5.....    | 41           | .....        |
| Ginyo Maru.....    | Toyo Kisen Kaisha.....             | May 5.....    | May 6.....    | 200          | .....        |
| Laura C. Hall..... | Pacific Metals Transportation Co.. | May 6.....    | May 6.....    | 7            | .....        |

### Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 8, 1922.

The following radio was received by this office to-day from the U. S. S. *Birmingham*:  
"Uprooted tree about 50 feet long and 10 feet in diameter, with roots attached observed floating, Lat. N. 8° 35', Long. W. 85° 04' at 8 a. m., 8th."

JAY J. MORROW, Governor.

**Ships at Canal Repair Shops.**

The following vessels were at the Cristobal shops for repairs during the week ended May 8:

Motor schooner *Arabia*, dock and undock; make and fit new tail shaft; launch *Activo*, fit new leathers; machine valve seats and make 4 new check valves for pump; P. R. R. barge *No. 26*, dock and undock; scale and paint bottom and hopper; remove old sealing and cement filling and renew same in center compartment; renew broken sections of hatch covers and fit same with grab irons and bolt together; renew fenders; refasten bow towing chock; renew gaskets and bolts in aft deck house hatch cover; steamships *Scottsburg*, repair steering gear telemotor; *Acajulla*, repair lifeboat, saloon door, and ice box door; schooner *Tonawanda*, manufacture bolts and nuts; steamship *Panama*, install new section of rubber retaining strip on cargo port; repair chain for motor boat starter; Colombian Navy Cutter *No. 2*, dock and undock; renew 25 hull plates and complete engine repairs; steamship *Jason*, repair ice machine coil; *Salvador*, calk forward well deck; repair lifeboat; repair main hatches Nos. 1 and 2; supply and fit new guard plate over steering rod; adjust 2 weighing machines; repair cargo gin; repair cargo hook and chain; repair force pumps; supply and fit new hand rail for accommodation ladder; repair dinghy; supply and fit new glass in standard compass; supply 4 mild steel flanges for fuel heater; repair fuel heater coil; overhaul injector; supply 4 valves and spindles for fuel tank and repair 1 valve; manufacture 2 winch stop handles; renew suction pipe; repair main check valve; repair wash deck pipe, sanitary pipe, and galley scupper; repair 7 canvas slings; manufacture canvas screen 21 feet by 4 feet; manufacture 3 tarpaulins; repair netting on stateroom doors; renew galley floor grating; repair door lock; renew port glass; *Venezuela*, rebabbit bearings; repair tank coils; make 4 coupling bolts; repair oil pipes; renew 2 T's; repair dutchman; manufacture 1 bench and fit grating; rehandle uptake doors and roll leaky tubes; *Advance*, manufacture 2 lead bilge strainers for fire room; manufacture 2 pieces of pipe 8 feet long; calibrate 10 steam gauges; fit new wood in brake bands on deck hoister.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing  
from Port of Cristobal for Week Ending May 6, 1922.**

| Name of vessel.    | Line or charterer.                  | Arrived.      | Departed.     | Cargo—           |                  |
|--------------------|-------------------------------------|---------------|---------------|------------------|------------------|
|                    |                                     |               |               | Discharged       | Laded.           |
|                    |                                     |               |               | Tons.            | Tons.            |
| Eiger.....         | Caribbean Steamship Line.....       | April 30..... | April 30..... | 36               | ( <sup>3</sup> ) |
| Cauca.....         | Pacific Steam Navigation Co.....    | April 30..... | April 30..... | 1,368½           |                  |
| Advance.....       | Panama Railroad Steamship Line..... | May 1.....    | May 1.....    | 80               |                  |
| La Paz.....        | Pacific Steam Navigation Co.....    | April 30..... | May 1.....    | 123              | ( <sup>3</sup> ) |
| Venezuela.....     | Pacific Mail Steamship Co.....      | April 30..... | May 1.....    | 119              | 173              |
| Cardiganshire..... | Pacific Steam Navigation Co.....    | May 1.....    | May 2.....    |                  | 7                |
| Imperial.....      | Chilean Line.....                   | May 1.....    | May 3.....    |                  | 378              |
| Jamaica.....       | Pacific Steam Navigation Co.....    | May 1.....    | May 3.....    |                  | 16               |
| Suriname.....      | United Fruit Co.....                | April 30..... | May 3.....    | ( <sup>1</sup> ) | 198              |
| Huallaga.....      | Peruvian Line.....                  | April 30..... | May 3.....    | 1,857            | 330              |
| Cartago.....       | United Fruit Co.....                | May 1.....    | May 4.....    | 1,137            | 58               |
| Varg.....          | Caribbean Steamship Line.....       | May 1.....    | May 2.....    | 171              | ( <sup>3</sup> ) |
| Murla.....         | Roland Steamship Line.....          | May 2.....    | May 2.....    | 50               | ( <sup>3</sup> ) |
| Calamares.....     | United Fruit Co.....                | May 2.....    | May 3.....    | 315              | 428              |
| Metapan.....       | United Fruit Co.....                | May 3.....    | May 4.....    | 25               | 81               |
| Panama.....        | Panama Railroad Steamship Line..... | May 3.....    | May 3.....    | 1,990            |                  |
| Theben.....        | Kosmos Line.....                    | May 3.....    | May 3.....    | 2                | 27               |
| Indiana.....       | French Line.....                    | May 4.....    | May 4.....    | 1½               |                  |
| Tivives.....       | United Fruit Co.....                | May 4.....    | May 4.....    | * 2              | 5                |
| Cuba.....          | Pacific Mail Steamship Co.....      | May 4.....    | May 4.....    |                  | 2,321½           |
| Ecuador.....       | Pacific Mail Steamship Co.....      | May 5.....    | May 6.....    | 1,415            | 422              |
| Borgland.....      | Norway-Pacific Line.....            | May 5.....    | May 6.....    | 140              | ( <sup>3</sup> ) |
| Laura C. Hall..... | Pacific Metals Corporation.....     | May 6.....    | May 6.....    | 73               |                  |
| San Benito.....    | United Fruit Co.....                | May 6.....    | May 6.....    | 15               | 133              |

\* No cargo discharged.

\* Packages.

\* No cargo laded.

## Deceased and Insane Employees.

The estates of the following deceased or insane employees of The Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

## DECEASED.

| Name.                         | Check No. | Native of—    | Isthmian residence. | Employed by—            | Date of death.     |
|-------------------------------|-----------|---------------|---------------------|-------------------------|--------------------|
| George Morgan.....            | 57866     | Jamaica.....  | Folks River.....    | R. & F. Agent.....      | February 27, 1922. |
| Charles Weathers.....         | 38781     | Barbados..... | Colon.....          | D. Q. M., Cristobal.... | April 3, 1922.     |
| William Notice (Nc-tyce)..... | 45359     | Jamaica.....  | Colon.....          | R. & F. Agent.....      | April 27, 1922.    |

## INSANE.

| Name.                | Check No. | Native of—   | Isthmian residence. | Employed by—         | Date of commitment. |
|----------------------|-----------|--------------|---------------------|----------------------|---------------------|
| James Campbell ..... | 59361     | Jamaica..... | Cristobal.....      | Coaling station..... | March 6, 1922.      |
| Raymond Watson.....  | 62258     | Jamaica..... | Mount Hope....      | Cattle Industry..... | March 16, 1922.     |

## Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective May 8, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.20 |
| Brass, sheet, average.....                                        | Lb.            | .31    |
| Bronze, Tobin, average.....                                       | Lb.            | .27    |
| Gasoline, motor grade.....                                        | Gal.           | .3125  |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .11    |
| Oakum, Navy, unspun.....                                          | Lb.            | .14    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Pbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .45    |
| Oil, burning.....                                                 | Gal.           | 1.06   |
| Oil, engine, gas, in barrels.....                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .50    |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .40    |
| Oil, kerosene, in drums.....                                      | Gal.           | .21    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .56    |
| Paint, lead, white, dry.....                                      | Lb.            | .09    |
| Paint, lead, white, in oil.....                                   | Lb.            | .09    |
| Paint, zinc, white, dry.....                                      | Lb.            | .15    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .12½   |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .09    |
| Soda, ash.....                                                    | Lb.            | .03    |
| Waste, cotton, colored.....                                       | Lb.            | .14    |
| Waste, cotton, white.....                                         | Lb.            | .15    |

## Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.



## Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

## Official Circular.

### Acting Captain of the Port, Cristobal.

THE PANAMA CANAL,

DIVISION OF OPERATION AND MAINTENANCE,

BALBOA HEIGHTS, C. Z., May 3, 1922.

To all concerned—Effective May 4, 1922, and during the absence on leave of Commander F. V. McNair, U. S. N., Assistant Port Captain H. L. Eden will act as Captain of the Port, Cristobal.

E. P. JESSOP,

Marine Superintendent.

Approved:

JAY J. MORROW,  
Governor.

### Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa. For delivering lump coal for galley use, in sacks, \$12 additional per ton; but if vessel furnishes sacks, \$5 per ton additional.

For coal in large quantities as specified below, taken from alongside coaling plants:

(a) To vessels taking 1,200 tons or over;

(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

### Scheduled Sailings of Panama Railroad Liners.

The following are proposed sailings of vessels of the Panama Railroad Steamship Line between Cristobal and New York, all voyages being by way of Port-au-Prince, Haiti:

#### NEW YORK TO CRISTOBAL.

| Steamer.              | Leave.      | Arrive. |
|-----------------------|-------------|---------|
| Gen. G. W. Goethals.. | May 15..... | May 23. |
| Panama.....           | May 25..... | June 2. |

#### CRISTOBAL TO NEW YORK.

|                       |             |          |
|-----------------------|-------------|----------|
| Colon.....            | May 19..... | May 26.  |
| Gen. G. W. Goethals.. | May 29..... | June 6.  |
| Panama.....           | June 9..... | June 16. |

### Typewriters For Sale.

The Supply Department has on sale a limited number of Underwood typewriters, second hand, models 4 and 5. Prices range from \$20 to \$35. Inspection can be made by applying to Storekeeper, Supply Department, Administration Building, Balboa Heights.

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

Subscription rates, domestic, \$1.50 per year; foreign, \$2.00; address

The Panama Canal Record, Balboa Heights, Canal Zone, or

The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., May 17, 1922.

No. 40.

## Heavy Loading of Three Steamers.

The steamship *Willhilo* of the Williams Steamship Company, passing through the Canal on May 12 from New York to Los Angeles, San Francisco, and Seattle, was reported by her master as carrying general cargo amounting to 10,075 tons. The *Willhilo* is a ship of 5,816 gross, and 3,567 net tons, United States registry measurement, 435 feet in length by 57.6 feet beam, and was, accordingly, well loaded. She was drawing 25.6 feet of water at time of transit.

During the calendar year 1921 the 428 vessels which passed through the Canal in the United States coastwise trade had aggregate registered net tonnage of 1,739,312 tons and carried a total of 1,944,118 tons of cargo. The ratio of tons of cargo to net tons was 1.12 tons of cargo per net ton. In the case of the *Willhilo* the ratio was 2.82.

The items reported on the cargo declaration for the *Willhilo* were as follows: Agricultural implements, 12 tons; automobiles, 4; canned fruits, 22; canned vegetables, 72; cement, 240; chemicals, 59; manufactured goods of iron and steel, pipe, etc., 6,652; machinery, 437; textiles, 1,271; other manufactured goods, not separately listed, 1,037; paper, 28; rubber tires, 3; tobacco, 21; leather, 3; carbide, 16; pig iron, 58; sheet tin, 140. The total of the foregoing is 10,075 tons.

Inasmuch as the Panama Canal net tonnage of the *Willhilo*, which is the interior space which can be devoted to carrying passengers or cargo, in tons of 100 cubic feet, is 5,882 tons, it is theoretically possible to load the ship with  $2\frac{1}{2}$  times as many tons of 40 cubic feet, the space measurement of a ton of cargo.

The British steamer *Sheaf Mead* (formerly the *Hawkser*), of 2,689 net registered tons, passed through the Canal on May 12, bound from Jacksonville, Fla., to San Antonio, Chile, with 6,000 tons of coal, a ratio of cargo to net tonnage of 2.23. The Panama Canal net of the *Sheaf Mead* is 4,008 tons.

The Japanese steamer *Hague Maru*, making the transit on the 13th, on the way from New York to Yokohama and Hongkong, reported 8,530 tons of structural steel, machinery, and general cargo. Her registered net tonnage is 3,591 tons, and the ratio of cargo to registered net on this voyage was 2.38. Her Panama Canal net measurement is 4,507 tons.

These instances afford striking examples of the differences between registered net tonnage, as established by the various national rules, and the net tonnage as determined by the Panama Canal rules for the purpose of measuring the actual capacity of the ship for carrying cargo or passengers.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, May 13, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                  | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                             | Length.                      | Beam. | Salt water draft. | From—         | For—           | Cargo.            |         | Panama Canal tonnage. |        |     |
|------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-----------------------------------|------------------------------|-------|-------------------|---------------|----------------|-------------------|---------|-----------------------|--------|-----|
|                        | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                   |                              |       |                   |               |                | Nature.           | Tons.   | Gross.                | Net.   |     |
| Howick Hall.           | 6                | 17 32 | 7              | 6 08  | 7                  | 13 54 | 7                | 15 25 | American.    | United States Steel Products Co   | 406 8                        | 51 5  | 27 0              | Baltimore.    | Los Angeles.   | General and steel | 7,210   | 6,095                 | 4,381  |     |
| Bethore .....          | 7                | 1 21  | 7              | 7 30  | 7                  | 15 23 | 7                | 16 21 | American.    | Guaranty Trust Co.                | 550 0                        | 72 0  | 21 6              | New York.     | Cruz Grande.   | Ballast           | 8,600   | 15,476                | 11,102 |     |
| Kawah .....            | 7                | 1 06  | 7              | 7 45  | 7                  | 16 20 | 7                | 17 45 | American.    | United States Navy                | 430 0                        | 58 0  | 26 0              | Port Arthur.  | Bahia.         | Oil and airplanes | 4,364   | 7,091                 | 5,002  |     |
| Iowan .....            | 7                | 8 20  | 7              | 8 40  | 7                  | 16 37 | 7                | 17 45 | American.    | American-Hawaiian Line.           | 490 0                        | 53 0  | 22 0              | Boston.       | Los Angeles.   | General           | 4,600   | 7,091                 | 5,002  |     |
| Calcarotte .....       | 7                | 10 29 | 7              | 10 40 | 7                  | 17 38 | 7                | 20 28 | British.     | Imperial Oil Co.                  | 463 0                        | 60 0  | 18 0              | New York.     | Talara.        | Ballast           | 8,700   | 8,491                 | 6,090  |     |
| Steel Navigator .....  | 7                | 1 50  | 7              | 13 00 | 7                  | 20 19 | 7                | 21 36 | American.    | United States Steel Products Co.  | 424 0                        | 56 0  | 27 0              | New York.     | Vanouver.      | General, steel.   | 8,700   | 7,611                 | 5,454  |     |
| Willshe .....          | 8                | 11 25 | 8              | 11 40 | 8                  | 18 38 | 8                | 19 15 | British.     | Federal Steam Navigation Co.      | 326 10                       | 61 4  | 28 6              | Liverpool.    | Auckland.      | General           | 6,654   | 12,514                | 9,026  |     |
| Saint Jean .....       | 8                | 14 07 | 8              | 11 50 | 8                  | 18 38 | 8                | 21 20 | French.      | French Line.                      | 397 0                        | 52 0  | 16 0              | Antwerp.      | Valparaiso.    | General           | 795     | 5,849                 | 4,081  |     |
| Jason .....            | 8                | 4 59  | 8              | 12 45 | 8                  | 20 38 | 8                | 21 20 | Dutch.       | Royal Netherlands W. I. Mail      | 346 4                        | 48 4  | 15 8              | Hamburg.      | Talcahuano.    | General           | 1,650   | 4,321                 | 3,120  |     |
| West Notus .....       | 9                | 1 12  | 9              | 6 30  | 9                  | 14 07 | 9                | 15 30 | American.    | Swayne & Hoyt (S. B.)             | 410 5                        | 54 3  | 22 8              | Buenos Aires. | San Francisco. | General           | 6,331   | 6,583                 | 4,914  |     |
| Laura C. Hall .....    | 8                | 20 46 | 9              | 6 16  | 9                  | 14 04 | 9                | 15 46 | British.     | Pacific Metals Corporation.       | 81 0                         | 25 6  | 9 0               | Cristobal.    | Buenaventura.  | General           | 15      | 132                   | 72     |     |
| Potosi .....           | 8                | 22 21 | 9              | 8 25  | 9                  | 15 46 | 9                | 17 00 | British.     | Pacific Steam Navigation Co.      | 381 0                        | 49 0  | 23 6              | Middlesburgh. | Coronel.       | General           | 4,592   | 5,567                 | 4,296  |     |
| Targis .....           | 8                | 8 13  | 9              | 13 12 | 9                  | 19 44 | 9                | 21 08 | German.      | Roland Line.                      | 265 0                        | 42 0  | 17 1              | Hamburg.      | Champerico.    | General           | 999     | 2,174                 | 1,320  |     |
| City of Yokohama ..... | 9                | 7 38  | 10             | 6 10  | 10                 | 14 18 | 10               | 15 39 | British.     | Ellerman Lines                    | 465 1                        | 58 1  | 28 4              | New York.     | Melbourne.     | General           | 8,395   | 9,581                 | 7,308  |     |
| Yokohama .....         | 9                | 18 40 | 10             | 7 25  | 10                 | 15 25 | 10               | 17 07 | British.     | Sheridan Steamship Co.            | 440 0                        | 56 0  | 26 9              | Tampico.      | Toconilla.     | Oil               | 9,317   | 7,693                 | 4,822  |     |
| Santa Luisa .....      | 9                | 18 57 | 10             | 8 06  | 10                 | 15 49 | 10               | 18 02 | American.    | Grace Line                        | 360 2                        | 51 6  | 25 0              | New York.     | Talcahuano.    | General           | 3,501   | 5,691                 | 3,975  |     |
| West Cherow .....      | 10               | 1 40  | 10             | 8 50  | 10                 | 17 23 | 11               | 23 30 | American.    | U. S. and Australian Line (S. B.) | 409 8                        | 54 2  | 23 0              | New York.     | Sydney.        | Gen., petroleum.  | 4,925   | 6,588                 | 4,824  |     |
| Oanfa .....            | 10               | 6 45  | 10             | 10 48 | 10                 | 18 12 | 11               | 19 45 | British.     | China Mutual Steam Nav. Co.       | 480 0                        | 58 3  | 30 10             | New York.     | Yokohama.      | General           | 9,500   | 9,347                 | 6,611  |     |
| Tilthorn .....         | 10               | 15 25 | 11             | 6 25  | 11                 | 13 50 | 11               | 15 30 | Norwegian.   | Britannia Steamship Co.           | 430 0                        | 53 9  | 29 3              | New York.     | Yokohama.      | General           | 9,394   | 6,591                 | 4,730  |     |
| F. J. Luckenbach ..... | 10               | 23 28 | 11             | 7 25  | 11                 | 14 43 | 11               | 16 07 | American.    | Luckenbach Line                   | 416 0                        | 56 0  | 24 0              | Philadelphia. | San Francisco. | General           | 4,500   | 8,508                 | 6,179  |     |
| West Jaffrey .....     | 11               | 2 10  | 11             | 8 00  | 11                 | 16 13 | 11               | 17 30 | American.    | Wessel Duval & Co. (S. B.)        | 409 8                        | 51 2  | 24 0              | New York.     | Talcahuano.    | General, coal.    | 6,300   | 6,580                 | 4,800  |     |
| Lombardia .....        | 10               | 15 07 | 11             | 9 00  | 11                 | 16 18 | 11               | 17 35 | Swedish.     | Svenska Lloyd                     | 271 2                        | 41 6  | 18 19             | New Orleans.  | Talcahuano.    | General           | 1,495   | 2,559                 | 1,399  |     |
| Agawist .....          | 7                | 15 10 | 12             | 6 04  | 12                 | 12 53 | 12               | 15 45 | American.    | New York and Cuba Mail S. S. Co.  | 373 0                        | 53 1  | 26 0              | Key West.     | Vanouver.      | Sugar             | 6,609   | 5,223                 | 4,203  |     |
| Salvador .....         | 4-29 20          | 12    | 6 05           | 12    | 12 48              | 12    | 16 29            | 12    | 16 29        | British.                          | Pacific Steam Navigation Co. | 215 0 | 33 0              | 13 11         | Cristobal.     | Guayquil.         | General | 232                   | 1,213  | 692 |
| Santa Maria .....      | 11               | 19 35 | 12             | 7 40  | 12                 | 15 25 | 12               | 17 05 | British.     | Santa Maria Steamship Co.         | 480 0                        | 60 0  | 27 6              | Tampico.      | Amatista.      | Oil               | 11,026  | 8,746                 | 5,679  |     |
| Sheaf Mead .....       | 12               | 7 30  | 12             | 8 09  | 12                 | 16 07 | 12               | 17 40 | British.     | W. A. Souter and Co.              | 389 2                        | 50 8  | 29 3              | Jacksonville. | San Antonio.   | Coal              | 6,000   |                       |        |     |
| Brielle .....          | 12               | 6 10  | 12             | 10 23 | 12                 | 17 17 | 12               | 19 10 | Dutch.       | Royal Netherlands W. I. Mail      | 402 5                        | 58 0  | 29 3              | Jacksonville. | Kobe.          | Steel, iron, gun  | 8,670   |                       |        |     |
| Willino .....          | 12               | 11 13 | 12             | 11 30 | 12                 | 18 37 | 12               | 20 05 | American.    | Williams Steamship Co.            | 435 0                        | 58 0  | 29 3              | New York.     | Seattle.       | General           | 10,073  | 7,983                 | 5,882  |     |
| Ervin .....            | 12               | 3 00  | 12             | 12 30 | 12                 | 20 23 | 12               | 22 10 | Norwegian.   | Hakon J. Wallen                   | 420 0                        | 54 0  | 27 8              | Port Arthur.  | Yokohama.      | Case oil          | 7,300   | 6,079                 | 5,131  |     |
| Santa Isabel .....     | 12               | 6 40  | 12             | 12 40 | 12                 | 19 42 | 12               | 20 53 | American.    | American and Cuban S. S. Co.      | 351 0                        | 43 0  | 21 19             | New York.     | San Francisco. | General           | 3,185   | 2,823                 | 1,740  |     |
| Junajira .....         | 7                | 25 13 | 7              | 6 10  | 13                 | 13 11 | 13               | 17 03 | British.     | Pacific Steam Navigation Co.      | 229 0                        | 31 0  | 14 3              | Sancta Marta. | Tunaco.        | General           | 810     | 1,187                 | 622    |     |
| Hokkoh Maru .....      | 12               | 16 14 | 13             | 7 12  | 13                 | 14 46 | 13               | 16 09 | Japanese.    | Yamashita K. Goshi Kaisha.        | 400 0                        | 52 0  | 22 4              | Trinidad.     | Portland.      | Pitch             | 5,000   | 6,117                 | 4,459  |     |
| Canadian .....         | 12               | 18 55 | 13             | 8 00  | 13                 | 15 47 | 13               | 17 25 | British.     | Canadian Government               | 400 0                        | 52 0  | 19 0              | Halifax.      | Brisbane.      | General           | 1,572   | 5,880                 | 4,103  |     |
| Leader .....           | 13               | 11 00 | 13             | 11 13 | 13                 | 18 13 | 13               | 19 24 | Japanese.    | Osaka Shosen Kabushiki Kaisha.    | 407 0                        | 50 0  | 26 0              | New York.     | Hongkong.      | General           | 8,330   | 6,202                 | 4,507  |     |
| Manzan .....           | 13               | 12 20 | 13             | 12 25 | 13                 | 19 10 | 13               | 20 15 | American.    | American-Hawaiian Line.           | 477 7                        | 53 7  | 22 0              | Philadelphia. | Los Angeles.   | General           | 3,215   | 7,095                 | 5,029  |     |

\* General, structural steel, and machinery.

\* Motor schooner.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                  |     |       |    |      |       |    |    |    |    |    |        |                             |                                     |     |    |    |    |    |        |               |              |                 |       |        |       |
|------------------|-----|-------|----|------|-------|----|----|----|----|----|--------|-----------------------------|-------------------------------------|-----|----|----|----|----|--------|---------------|--------------|-----------------|-------|--------|-------|
| Wolsom.....      | 4-5 | 16.50 | 7  | 6.50 | 7     | 15 | 25 | 8  | 6  | 20 | Dutch. | Royal Mail Steam Packet Co. | 360                                 | 0   | 48 | 0  | 19 | 6  | Balboa | Cristobal     | General      | 4,171           | 4,742 | 3,534  |       |
| Salvador.....    | 6   | 20    | 20 | 7    | 8.00  | 7  | 15 | 10 | 12 | 12 | 53     | British.                    | Pacific Steam Navigation Co.        | 215 | 0  | 33 | 0  | 16 | 2      | Champerico.   | Cristobal    | General         | 5,173 | 1,215  | 692   |
| Hayre Maru.....  | 6   | 21    | 20 | 7    | 8.14  | 7  | 16 | 00 | 7  | 16 | 35     | Japanese.                   | Osaka Shosen Kaisha.                | 407 | 0  | 51 | 0  | 22 | 6      | Singapore.    | New York     | General         | 6,730 | 6,234  | 4,406 |
| West Haven.....  | 6   | 21    | 20 | 7    | 9.55  | 7  | 17 | 06 | 8  | 11 | 25     | American.                   | Atlantic Gulf and Pacific S. S. Co. | 410 | 5  | 54 | 0  | 24 | 2      | Puget Sound.  | Baltimore.   | General         | 6,900 | 6,065  | 5,029 |
| Oreus.....       | 7   | 2     | 10 | 7    | 11.15 | 7  | 18 | 50 | 7  | 23 | 20     | American.                   | United States Shipping Board.       | 389 | 2  | 53 | 1  | 24 | 6      | Pisagua.      | Cristobal    | Nitrate         | 6,900 | 5,067  | 4,227 |
| Panama.....      | 8   | 0     | 01 | 8    | 7.32  | 8  | 15 | 55 | 8  | 18 | 30     | American.                   | American-Hawaiian Line.             | 407 | 7  | 53 | 7  | 22 | 0      | San Pedro.    | New York     | General         | 4,770 | 7,107  | 4,916 |
| City of Han-     | 8   | 8     | 20 | 8    | 9.12  | 8  | 16 | 17 | 8  | 18 | 27     | British.                    | Ellerman Lines.                     | 443 | 0  | 55 | 0  | 27 | 3      | Tacoma        | Antwerp.     | General         | 9,343 | 5,559  | 4,106 |
| gon.....         | 8   | 13    | 30 | 8    | 2.30  | 8  | 21 | 57 | 9  | 14 | 08     | Japanese.                   | Kawasaki Kisen Kaisha               | 385 | 0  | 51 | 0  | 25 | 0      | Portland.     | Hampton R'ds | Wheat           | 7,254 | 5,926  | 4,434 |
| Holland Maru.    | 8   | 17    | 30 | 9    | 6.45  | 9  | 13 | 35 | 9  | 13 | 35     | American.                   | Luckenbach Line.                    | 425 | 0  | 57 | 3  | 24 | 0      | Portland.     | New York     | General         | 5,000 | 8,568  | 6,096 |
| Edgar F. Luck-   | 8   | 20    | 45 | 9    | 7.34  | 9  | 17 | 43 | 11 | 10 | 20     | Norwegian.                  | Fred F. H. Berg.                    | 245 | 0  | 57 | 0  | 21 | 0      | Victoria      | London       | General         | 1,700 | 8,856  | 5,162 |
| embach.....      | 9   | 9     | 00 | 9    | 9.47  | 9  | 17 | 10 | 10 | 6  | 40     | British.                    | Royal Mail Steam Packet Co.         | 450 | 0  | 58 | 0  | 20 | 0      | San Francisco | London       | General         | 8,393 | 1,455  | 1,327 |
| Malafala.....    | 9   | 17    | 25 | 10   | 6.37  | 10 | 14 | 03 | 10 | 14 | 03     | American.                   | Luckenbach Line.                    | 448 | 9  | 60 | 2  | 23 | 0      | Vancouver     | New York     | General         | 4,300 | 9,262  | 6,853 |
| Nureta.....      | 7   | 16    | 20 | 10   | 7.53  | 10 | 15 | 05 | 12 | 15 | 50     | American.                   | United States Navy                  | 430 | 0  | 58 | 0  | 26 | 0      | Balboa        | Cristobal    | Oil, airplanes. | 3,480 | 7,080  | 5,064 |
| Harry Lucken-    | 9   | 18    | 00 | 10   | 8.58  | 10 | 15 | 20 | 12 | 13 | 20     | American.                   | Panama Railroad Steamship Line      | 356 | 4  | 54 | 3  | 18 | 0      | Guayaquil.    | New York     | General         | 559   | 4,503  | 2,764 |
| bach.....        | 9   | 21    | 45 | 10   | 9.47  | 10 | 17 | 26 | 10 | 18 | 30     | Japanese.                   | Kokusai Kisen Kaisha.               | 385 | 0  | 51 | 0  | 26 | 6      | Portland.     | Cristobal    | Wheat           | 7,700 | 5,932  | 4,695 |
| General O. H.    | 10  | 0     | 05 | 10   | 10.50 | 10 | 18 | 35 | 10 | 18 | 35     | American.                   | Standard Oil Co.                    | 414 | 5  | 55 | 0  | 28 | 6      | Talara.       | New York     | Crude oil       | 8,900 | 6,437  | 4,442 |
| Ernst.....       | 10  | 7     | 35 | 11   | 7.52  | 11 | 19 | 43 | 11 | 12 | 08     | French.                     | French Line.                        | 411 | 0  | 55 | 0  | 25 | 6      | Vancouver     | Have         | General         | 5,569 | 6,327  | 4,369 |
| Yefuku Maru.     | 11  | 3     | 39 | 11   | 7.52  | 11 | 19 | 43 | 11 | 12 | 08     | American.                   | United States Shipping Board.       | 410 | 2  | 54 | 2  | 20 | 3      | San Francisco | Buenos Aires | General         | 2,437 | 6,755  | 4,873 |
| Caddo.....       | 11  | 7     | 00 | 11   | 8.15  | 11 | 16 | 26 | 13 | 1  | 20     | British.                    | United States Steel Products Co.    | 424 | 2  | 56 | 2  | 25 | 6      | Tacoma        | London       | General         | 8,350 | 7,011  | 5,454 |
| Montana.....     | 11  | 18    | 30 | 12   | 7.45  | 12 | 16 | 45 | 13 | 18 | 47     | British.                    | Royal Mail Steam Packet Co.         | 485 | 4  | 62 | 3  | 29 | 6      | Vancouver     | Rotterdam    | General         | 9,950 | 10,802 | 7,595 |
| West Jappa.      | 11  | 20    | 25 | 12   | 8.56  | 12 | 17 | 05 | 13 | 6  | 12     | British.                    | Royal Mail Steam Packet Co.         | 485 | 4  | 62 | 3  | 29 | 6      | Vancouver     | Rotterdam    | General         | 8,525 | 6,501  | 4,459 |
| Steel Scientist. | 11  | 20    | 25 | 12   | 8.56  | 12 | 17 | 05 | 13 | 6  | 12     | British.                    | Royal Mail Steam Packet Co.         | 485 | 4  | 62 | 3  | 29 | 6      | Vancouver     | Rotterdam    | General         | 8,525 | 6,501  | 4,459 |
| Loch Katrine.    | 12  | 6     | 15 | 12   | 9.44  | 12 | 18 | 00 | 12 | 19 | 20     | Swedish.                    | Swedish Lloyd.                      | 420 | 0  | 64 | 0  | 20 | 0      | San Francisco | London       | Gasoline        | 2,700 | 2,381  | 1,458 |
| Italy.....       | 12  | 8     | 30 | 12   | 10.05 | 12 | 17 | 37 | 12 | 14 | 15     | American.                   | Swedish Lloyd.                      | 420 | 0  | 64 | 0  | 20 | 0      | San Francisco | London       | Gasoline        | 2,700 | 2,381  | 1,458 |
| Gymrite.....     | 12  | 14    | 30 | 13   | 6.50  | 13 | 14 | 18 | 15 | 8  | 42     | Chile.                      | A. H. Bull Steamship Co.            | 373 | 6  | 56 | 1  | 15 | 0      | Ignique       | New Orleans  | Nitrate         | 3,462 | 2,384  | 1,582 |
| Carolin.....     | 12  | 16    | 35 | 13   | 7.49  | 13 | 15 | 48 | 14 | 15 | 00     | American.                   | A. H. Bull Steamship Co.            | 379 | 0  | 56 | 1  | 15 | 0      | Tacoma        | Sabine       | Ballast         | 4,552 | 3,182  |       |
| Huaso.....       | 12  | 16    | 35 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| San Juan.....    | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Granos.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Mantaro.....     | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 | 0  | 21 | 0      | Talcahuano    | Cristobal    | General         | 2,379 | 1,593  | 1,393 |
| Manavi.....      | 13  | 7     | 00 | 13   | 7.51  | 13 | 15 | 48 | 14 | 15 | 00     | Norwegian.                  | South American Steamship Co.        | 379 | 0  | 44 |    |    |        |               |              |                 |       |        |       |

For orders.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |                   |                                 |                           | *DEPARTURES. |                     |                                 |                           |
|------------|-------------------|---------------------------------|---------------------------|--------------|---------------------|---------------------------------|---------------------------|
| Date.      | Vessel.           | Line.                           | From—                     | Date.        | Vessel.             | Line.                           | For—                      |
| May 7.     | Atenas.           | United Fruit Co.                | New Orleans via Habana.   | May 8.       | Arabia <sup>1</sup> | Panama Plantation Syndicate.    | Colon.                    |
| May 8.     | Venezuela.        | Royal Netherlands W. I. Mail Co | Amsterdam via wayports.   | May 8.       | Atenas.             | United Fruit Co.                | Bocas del Toro.           |
| May 8.     | Heredia.          | United Fruit Co.                | New Orleans.              | May 9.       | Panama.             | Panama Railroad Steamship Line. | New York via Haiti.       |
| May 8.     | San Blas.         | United Fruit Co.                | Boston via Habana.        | May 10.      | Advance.            | Panama Railroad Steamship Line. | Puerto Colombia.          |
| May 9.     | Pastores.         | United Fruit Co.                | New York via Habana.      | May 10.      | Pastores.           | United Fruit Co.                | New York via wayports.    |
| May 9.     | Haiti.            | United Fruit Co.                | St. Nazaire via wayports. | May 11.      | Heredia.            | United Fruit Co.                | New Orleans via wayports. |
| May 10.    | Arenas.           | Spanish Line.                   | Barcelona via Habana.     | May 11.      | San Blas.           | United Fruit Co.                | Boston via Port Limon.    |
| May 11.    | Buenos Aires.     | United Fruit Co.                | Bocas del Toro.           | May 11.      | Atenas.             | United Fruit Co.                | New Orleans.              |
| May 11.    | Acanas.           | Panama Railroad Steamship Line. | New York via Haiti.       | May 11.      | Venezuela.          | Royal Netherlands W. I. Mail.   | Port Limon.               |
| May 12.    | Colon.            | Elders & Pyries, Ltd            | Port Limon.               | May 12.      | Buenos Aires.       | Spanish Line.                   | Puerto Colombia.          |
| May 13.    | Bayano.           | Standard Oil Co                 | 1 tampeco.                | May 12.      | Haiti.              | French Line.                    | Puerto Colombia.          |
| May 13.    | John Worthington. |                                 |                           | May 13.      | Bayano.             | Elders & Pyries, Ltd            | Kinston.                  |

\* Other than ships passing through the Canal.

### The Return of the "Tavernilla" from Los Angeles.

The Panama Canal tug *Tavernilla*, which towed the steamer *Willpolo* from the Pacific coast of Nicaragua to Los Angeles, arriving there on April 28, returned to the Canal on May 15.

Capt. H. O. Loken, commanding the *Tavernilla*, gave the following summary of the voyage:

"We received orders at Cristobal at 10.30 a. m., April 10, and left for passage through the Canal at 11.30 a. m., arriving at Balboa at 7.00 p. m. After taking fuel and stores at Balboa we cleared for sea at 11 p. m.

"We arrived at the steamer *Willpolo* on April 14 at 10.45 p. m., in latitude 12° 59' N. and longitude 93° 26' W. She had been adrift since April 5, when she lost her propeller, 701 miles W. N. W. of Balboa, and to the time of the arrival of the tug had drifted 349 miles, west-northwest, on the track to California, averaging about .31 miles a day, for 10 days and 16 hours drifted.

"We started towing for San Pedro at 1 a. m., April 15. We arrived at San Pedro on the 28th at 3 p. m., towing 1,960 miles in 13 d. 17 h. 17 m. an average speed of 5.89 knots. During this time the *Tavernilla* ran in close to the coast of Mexico and took oil and water from the *Willpolo*, twice in open sea. On the 17th we were met by the tug *Sea Lion*, from San Francisco, which assisted us in making the tow to San Pedro. For the last 1,000 miles we were towing against a N. W. swell, but the weather was fine. The last day, in order to get to dock before evening, we opened up and went into San Pedro at a speed of over 7 knots. The *Willpolo* is an 5,175-ton ship, heavily loaded at the time and drawing 24½ feet of water.

"In San Pedro we cleaned boilers, and got out on the 2d of May. Coming back, we made the trip from San Pedro to Balboa, via Salina Cruz, a distance of 3,021 miles, at an average speed of 245 to 250 miles a day, without pushing the engines. We stopped a day at Salina Cruz for oil.

"Going up with the *Willpolo* in tow, we ran into thousands of turtles while crossing the southern part of the Gulf of California, west of Manzanillo. We caught two with a net, and they made fine steaks and soup. After leaving Salina Cruz, we saw only a few.

"The Los Angeles papers gave us good notices, and some of them said this was the heaviest towing job that had been performed on the coast. A number of old Canal people now living in Los Angeles came down to see us."

### Transit of Ward Line Steamer "Agwistar."

The steamship *Agwistar* of the New York and Cuba Mail Steamship Company (Ward Line) made the transit of the Canal on May 11 from Matanzas, Cuba, with 6,600 tons of sugar consigned to Vancouver. The local agents, the Anglo-American Steamship Agencies, advise that this is not the beginning of a regular service but simply a special voyage. The Ward Line began a service through the Canal between the Atlantic coast of the United States and the west coast of Central America and Mexico in October, 1916, but discontinued it in 1917 in order to use the vessels on more attractive trades.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending May 13, 1922.

| Name of vessel.    | Line or charterer.                | Arrived.    | Departed.   | Cargo—     |        |
|--------------------|-----------------------------------|-------------|-------------|------------|--------|
|                    |                                   |             |             | Discharged | Laded. |
|                    |                                   |             |             | Tons.      | Tons.  |
| Salvador.....      | Pacific Steam Navigation Co.....  | May 7.....  | May 7.....  | 1          |        |
| Kaweah.....        | United States Navy.....           | May 8.....  | May 10..... | 454        |        |
| Laura C. Hall..... | Pacific Metals Transp. Co., Ltd.. | May 9.....  | May 9.....  |            | 1      |
| Targis.....        | Roland Line.....                  | May 9.....  | May 9.....  | 32         |        |
| Acajutla.....      | Pacific Steam Navigation Co.....  | May 12..... | May 12..... |            | 5      |
| San Juan.....      | Pacific Mail Steamship Co.....    | May 12..... | May 13..... | 19         | 2      |
| Huasco.....        | South American Steamship Co.....  | May 12..... | May 13..... | 77         |        |
| Jamaica.....       | Pacific Steam Navigation Co.....  | May 13..... | May 13..... |            | 12     |
| Manavi.....        | Pacific Steam Navigation Co.....  | May 13..... | May 13..... | 6          |        |

# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending May 13, 1922.

| Name of vessel.  | Line or charterer.              | Arrived. | Departed. | Cargo—           |                  |
|------------------|---------------------------------|----------|-----------|------------------|------------------|
|                  |                                 |          |           | Discharged       | Laded.           |
|                  |                                 |          |           | Tons.            | Tons.            |
| Atenas           | United Fruit Co.                | May 7.   | May 8.    | ( <sup>1</sup> ) | 201              |
| Saint Jean       | French Line                     | May 7.   | May 8.    | 52               | ( <sup>2</sup> ) |
| Salvador         | Pacific Steam Navigation Co.    | May 7.   | May 12.   | 829              | 277              |
| Jason            | Royal Netherlands W. I. Mail    | May 8.   | May 8.    | 121              | ( <sup>2</sup> ) |
| Heredia          | United Fruit Co.                | May 8.   | May 11.   | 783              | 88               |
| Venezuela        | Royal Netherlands W. I. Mail    | May 8.   | May 11.   | 43               | ( <sup>2</sup> ) |
| Targis           | Roland Line                     | May 9.   | May 9.    | 131              | ( <sup>2</sup> ) |
| Panama           | Panama Railroad Steamship Line. |          | May 9.    |                  | 2,388            |
| Indiana          | French Line                     |          | May 9.    |                  | 1,109            |
| Laura C. Hall    | Pacific Metals Corporation      |          | May 9.    |                  | 44               |
| San Blas         | United Fruit Co.                | May 9.   | May 11.   | 13               | 54               |
| Pastores         | United Fruit Co.                | May 9.   | May 10.   | 354              | 256              |
| Advance          | Panama Railroad Steamship Line. |          | May 10.   |                  | 158              |
| Haiti            | French Line                     | May 9.   | May 12.   | 12               | 100              |
| Lombardia        | N. O. & S. A. S. S. Co.         | May 10.  | May 11.   | 275              | ( <sup>2</sup> ) |
| Montana          | French Line                     | May 10.  | May 11.   | 4                | ( <sup>2</sup> ) |
| Buenos Aires     | Spanish Line                    | May 10.  | May 12.   | 142              | 325              |
| Gen. O. H. Ernst | Panama Railroad Steamship Line. | May 10.  | May 12.   | 1,077            | ( <sup>2</sup> ) |
| Atenas           | United Fruit Co.                | May 11.  | May 11.   | 15               | 4                |
| Jamaica          | Pacific Steam Navigation Co.    | May 12.  | May 13.   | 14               | 210              |
| Colon            | Panama Railroad Steamship Line. | May 12.  |           | 1,774            |                  |
| Mantaro          | Peruvian Line                   | May 13.  |           | 1,272            |                  |
| Bayano           | Elders & Fyffes, Ltd            | May 13.  | May 13.   | 40               |                  |
| Manavi           | Pacific Steam Navigation Co.    | May 13.  |           | 211              |                  |
| Huasco           | Chilean Line                    | May 13.  |           | 395              |                  |
| San Juan         | Pacific Mail Steamship Co.      | May 13.  |           | 1,472            |                  |
| Granfos          | Caribbean Steamship Line.       | May 13.  |           | 211              |                  |
| John Worthington | Standard Oil Co.                | May 13.  |           | 10,800           |                  |

<sup>1</sup> No cargo discharged.<sup>2</sup> No cargo laded.

## Regulating Water in Gatun Lake.

THE PANAMA CANAL, DEPARTMENT OF OPERATION AND MAINTENANCE,  
BALBOA HEIGHTS, C. Z., May 9, 1922.

*To all concerned*—The following schedule for maintaining Gatun Lake during the 1922 rainy season will be adhered to as closely as conditions permit:

The lake will be allowed to fill to elevation plus 85.5 feet before any water is wasted over the spillway. This elevation should be reached the latter part of June.

The lake will be held between elevations plus 85.5 feet and plus 86 feet until the 1st of October; filled to elevation plus 86.5 feet in October; and the filling will be completed to elevation plus 87 feet in November.

The allowable variation in lake level will be 0.5 foot to lessen the number of spillway gates operated simultaneously in regulating the lake level.

M. L. WALKER,  
Engineer of Maintenance.

## Notice to Mariners.—Aids to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 11, 1922.

Capt. J. E. Stone of the American steamship *General O. H. Ernst*, reports:

### VISIBILITY OF LIGHTS ON THE COAST OF ECUADOR.

Manta Light (changed from old light):

Flash 0.9 sec., eclipse 8.1 secs.

One flash every 9 seconds.

Visible 14 nautical miles.

Cape San Lorenzo (new light):

Flash 0.5 sec., eclipse 1.0 sec.

Flash 0.5 sec., eclipse 1.0 sec.

Flash 0.5 sec., eclipse 11.5 secs.

Three flashes every 15 seconds.

Visible 15 nautical miles.

Cape Pasado (new light):

Flash 1.2 sec., eclipse 10.8 secs.

One flash every 12 seconds.

Visible 19 nautical miles.

Cape Pasado light is obscured in the southerly approach east of N. 17 E. true.

Land formation and trees prevent seeing the light until it bears N. 17 E. true.

(The above-mentioned visibility is based on a height of 35 feet from the ship's bridge.)

JAY J. MORROW,  
Governor.



### Notice to Mariners.—Aids to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 11, 1922.

Capt. J. E. Stone of the American steamship *General O. H. Ernst* reports the following information received from the Captain of the Port of Buenaventura, Colombia:

LOCATION OF THE FIVE LUMINOUS BUOYS LOCATED IN THE BUENAVENTURA BAY.

#### DEPARTURE.

*First buoy.*—Red light, S. 15 W. M.; placed in 7 fathoms of water,  $\frac{1}{4}$  of a mile away from the pier; should be left to port side.

*Second buoy.*—White light, in front of Limones Point (Thotmes banks), location, S. 15 W. M.,  $1\frac{1}{2}$  miles away from the first; placed in 6 fathoms; should be left to starboard side.

*Third buoy.*—White light; it marks a bank of 3 fathoms in a direction S. 58 W. M. It is  $2\frac{1}{2}$  miles away from the second buoy, and is placed in 5 fathoms of water. Should be left to starboard side.

*Fourth buoy.*—Red light, location S. 60 W. M. It is 3 miles away from the third. It is placed in 10 fathoms of water, clear passage to port side and starboard side.

*Fifth buoy.*—White light, San Pablo bank (Morro of the same name), location S. 70 W. M., it is  $4\frac{1}{2}$  miles away from the fourth buoy; it is placed in 5 fathoms of water.

#### ENTRANCE.

The same indications with the natural inversion of the course.

The Inspector of the Customs,  
Manuel Sinisterra.

BUENAVENTURA, March, 1922.  
The Captain of the Port,  
Manuel S. Caicedo.

The visibility of these buoy lights is about 6 miles, flashing at intervals of 3 seconds. These are the same buoys reported in Notice to Mariners, Panama Canal, of March 9, 1922.

JAY J. MORROW,  
Governor.

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended May 10:

Steamship *Ginyo Maru*, repairs to fire line.

#### PREVIOUSLY REPORTED.

Motor ship *Rosana*, open up engines; remove pistons, manufacture 42 piston rings and install, weld, and machine broken piston skirt; rebush 6 crosshead pins and manufacture pump springs; dredge *No. 86*, renew main deck house sills and deck; renew upper fender plank shear; renew 70 feet of upper deck sills and deck; renew ice box; build new gantry frames; change round spud wells to square; remove and replace deck machinery in wake of repairs; install new ladder brake wheel, redeck and calk galley floor; scale deck plates in way of replacement of wood decks; tug *Favorite*, convert from coal burner to oil burner.

The following vessels were at the Cristobal shops for repairs during the week ended May 15:

Steamships *City of Yokohama*, repair and renew copper oil pipe; *Toco*, manufacture 8 iron lock nuts and 1 spanner; make 1 cast-iron 5-inch T piece with 10-inch flanges and 1 blank flange; cut 5-inch pipe and fit to flange; *Loch Katrine*, furnish 6 brass tubes and 1 Muntz metal bar; *Cordelia*, manufacture crosshead for fuel pump; *Mantaro*, electric weld hawse pipe; *Colon*, renew  $2\frac{1}{2}$ " suction pipe for tank in fireroom; manufacture between-deck space; *Parismina*, repair main brine pipe; *San Juan*, repair hoister; *Manavi*, engine repairs; electric weld boiler manhole, door flange; repair boiler guard plates; test boiler; make 2 glands for ash hoist; fit valve on exhaust pipe line; remake main engine reduction pipe joints; machine atmospheric valve and seat; overhaul steering engine exhaust cock; skim up electric engine piston rod and fit new neck and gland bushes.

### Postal and Cable Addresses of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."



### Importation of Birds and Animals into the United States.

The Chief Quarantine Officer authorizes the following:

The Quarantine Division is in receipt from time to time of inquiries regarding the importation of birds and animals into the United States, and in order that the general public may have accurate information in regard to the matter, data on the subject have been secured from the United States Department of Agriculture. The regulations and laws covering these subjects are on file at the office of the Chief Quarantine Officer and may be seen there by any interested person. Those contemplating the shipment of horses, cattle, sheep, goats, swine, and wild animals should consult this file. The law in regard to this matter may be summarized as follows:

The importation of certain birds, and such other birds and animals as the Secretary of Agriculture may from time to time declare to be injurious to the interests of agriculture or horticulture, is prohibited, but natural history specimens for museums or scientific collections, or cage birds, such as domesticated canaries, parrots, and such other birds as the Secretary of Agriculture may designate, may be imported.

All packages containing the dead bodies or plumage or parts thereof, of game animals or game or other wild birds, must be plainly and clearly marked with name and address of shipper and note of contents. The importation of aigrettes, egret plumes, or so-called osprey plumes is absolutely prohibited.

Evasion or violation of any portion of this law is punishable by fine.

All dogs imported into the United States from any part of the world except the countries of North America are subject to inspection by the Bureau of Animal Industry, and such animal or animals, except the smaller breeds classed as house dogs, may, in the discretion of the inspector, be handled as prescribed for collie, shepherd, or sheep dogs. All collie, shepherd, or sheep dogs shall be subject to quarantine for a period not to exceed two weeks or until it can be determined as to whether such dogs are the hosts of the tapeworm.

Other animals and birds may be entered at ports in the United States under permit from the Bureau of Biological Survey. Application blanks for such permits may be secured from the Chief Quarantine Officer. Six birds or less may be imported without the formality of a permit, if included in the declaration of passenger's baggage. In case it is impracticable to obtain a permit in advance of shipment, application may be made by wire on arrival at port of entry, and if application is approved only a few hours delay will result.

### Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective May 15, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.20 |
| Brass, sheet, average.....                                        | Lb.            | .31    |
| Bronze, Tobin, average.....                                       | Lb.            | .27    |
| Gasoline, motor grade.....                                        | Gal.           | .3125  |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .11    |
| Oakum, Navy, unspun.....                                          | Lb.            | .14    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Pbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .40    |
| Oil, burning.....                                                 | Gal.           | 1.06   |
| Oil, engine, gas, in barrels.....                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .50    |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .40    |
| Oil, kerosene, in drums.....                                      | Gal.           | .21    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .56    |
| Paint, lead, white, dry.....                                      | Lb.            | .09    |
| Paint, lead, white, in oil.....                                   | Lb.            | .09    |
| Paint, zinc, white, dry.....                                      | Lb.            | .15    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .12½   |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .09    |
| Soda, ash.....                                                    | Lb.            | .03    |
| Waste, cotton, colored.....                                       | Lb.            | .14    |
| Waste, cotton, white.....                                         | Lb.            | .15    |

### Official Circular.

#### Sailings of the "Cristobal."

PANAMA RAILROAD COMPANY,  
PANAMA RAILROAD STEAMSHIP LINE,  
BALBOA HEIGHTS, C. Z., May 4, 1922.

*To all concerned*—Referring to my circular of April 20, advising that the steamship *Cristobal* would probably only make one more voyage to the Isthmus in the near future, sailing from Cristobal for Norfolk, Va., on Monday, May 22, at 3 p. m., we wish now to advise that this steamer will make an additional trip in June, sailing from Norfolk for Cristobal about June 2, and from Cristobal for Norfolk about June 13, definite sailing date to be announced later.

W. F. FOSTER,  
*Acting Superintendent.*

#### Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

#### Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

#### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

#### Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa. For delivering lump coal for galley use, in sacks, \$12 additional per ton; but if vessel furnishes sacks, \$5 per ton additional.

For coal in large quantities as specified below, taken from alongside coaling plants:

(a) To vessels taking 1,200 tons or over;  
(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

#### Typewriters For Sale.

The Supply Department has on sale a limited number of Underwood typewriters, second hand, models 4 and 5. Prices range from \$20 to \$35. Inspection can be made by applying to Storekeeper, Supply Department, Administration Building, Balboa Heights.

#### Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

#### Sale of Cattle.

Grade Holstein bull calves 1 to 3 months old from registered sires. Also grade Hereford and Durham bulls and heifers 6 months to 2 years old. Sales will be made upon first satisfactory offer. For further information inquire Superintendent, Cattle Industry, Room 269, Administration Building, Balboa Heights.

#### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., May 24, 1922.

No. 41.

## CANAL WORK IN APRIL.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of April, 1922:

BALBOA HEIGHTS, C. Z., May 18, 1922.

*The Honorable, the Secretary of War,  
Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of April, 1922:

### CANAL TRAFFIC.

The total number of vessels and craft of all kinds transiting the Canal during the month of April, 1922, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                                 | April,<br>1922. | March,<br>1922. | April,<br>1921. |
|-------------------------------------------------|-----------------|-----------------|-----------------|
| Commercial vessels.....                         | 230             | 234             | 227             |
| Noncommercial vessels.....                      | 14              | 15              | 27              |
| Launches, etc. (under 10 tons measurement)..... | 9               | 4               | 9               |
| Total vessels and craft through Canal.....      | 253             | 253             | 263             |

In addition to the foregoing, Panama Canal equipment, consisting of floating cranes, barges, craneboats, graders, etc., was passed through the locks in April as follows:

|                   | North-<br>bound. | South-<br>bound. | Total. |
|-------------------|------------------|------------------|--------|
| Gatun.....        | 14               | 10               | 24     |
| Pedro Miguel..... | 32               | 34               | 66     |
| Miraflores.....   | 38               | 31               | 69     |

### COMMERCIAL TRAFFIC.<sup>1</sup>

#### *Comparative Traffic Statistics.*

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal during the month of April, 1922, with that of preceding months, along the lines indicated at the head of the various tables:

#### TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | April, 1922. | March, 1922. | April, 1921. | Average<br>month for<br>past year. |
|-------------------------------------------|--------------|--------------|--------------|------------------------------------|
| United States equivalent net tonnage..... | 771,932      | 786,759      | 771,116      | 742,259                            |
| Panama Canal net tonnage.....             | 974,833      | 975,811      | 955,503      | 918,391                            |
| Registered gross tonnage.....             | 1,219,338    | 1,226,971    | 1,203,087    | 1,156,053                          |
| Registered net tonnage.....               | 772,828      | 776,034      | 757,576      | 736,709                            |
| Tolls.....                                | \$953,256.11 | \$956,726.76 | \$927,977.09 | \$901,087.71                       |
| Cargo.....                                | 1,046,047    | 960,089      | 907,613      | 841,496                            |

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."



## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

|                                                   | April,<br>1922. | March,<br>1922. | April,<br>1921. |
|---------------------------------------------------|-----------------|-----------------|-----------------|
| United States equivalent net tonnage.....         | 3,356           | 3,362           | 3,397           |
| Panama Canal net tonnage.....                     | 4,238           | 4,170           | 4,209           |
| Registered gross tonnage.....                     | 5,301           | 5,243           | 5,299           |
| Registered net tonnage.....                       | 3,360           | 3,316           | 3,337           |
| Tolls.....                                        | \$4,144.59      | \$4,088.57      | \$4,088.01      |
| Tons of cargo (including vessels in ballast)..... | 4,588           | 4,103           | 3,998           |
| Tons of cargo (laden vessels only).....           | 4,755           | 4,424           | *4,561          |

## UNITED STATES COASTWISE TRAFFIC.

|                    | Atlantic to Pacific. |                       |             |                   | Pacific to Atlantic. |                       |             |                   |
|--------------------|----------------------|-----------------------|-------------|-------------------|----------------------|-----------------------|-------------|-------------------|
|                    | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. |
| 1921.              |                      |                       |             |                   |                      |                       |             |                   |
| April.....         | 19                   | 92,033                | \$94,185.00 | 94,484            | 14                   | 68,368                | \$65,523.74 | 59,306            |
| May.....           | 19                   | 82,257                | 84,545.85   | 90,617            | 16                   | 75,593                | 72,813.55   | 93,242            |
| June.....          | 17                   | 96,199                | 94,577.11   | 68,809            | 11                   | 53,986                | 53,953.75   | 57,234            |
| July.....          | 19                   | 101,924               | 99,474.75   | 60,997            | 14                   | 70,477                | 72,103.75   | 91,991            |
| August.....        | 19                   | 86,278                | 81,734.17   | 55,387            | 23                   | 110,899               | 118,316.25  | 129,792           |
| September.....     | 25                   | 134,239               | 136,340.58  | 72,620            | 15                   | 88,111                | 83,011.64   | 104,642           |
| October.....       | 22                   | 113,712               | 116,752.05  | 86,442            | 19                   | 96,731                | 101,710.00  | 105,951           |
| November.....      | 24                   | 136,349               | 131,558.19  | 91,067            | 17                   | 86,958                | 88,339.80   | 101,460           |
| December.....      | 20                   | 104,152               | 106,549.80  | 73,967            | 23                   | 116,482               | 117,600.08  | 105,134           |
| January, 1922..... | 28                   | 138,928               | 141,404.35  | 119,413           | 20                   | 108,921               | 111,440.00  | 86,862            |
| February.....      | 25                   | 117,512               | 116,235.50  | 94,548            | 19                   | 89,862                | 84,133.82   | 84,330            |
| March.....         | 34                   | 162,572               | 161,738.65  | 141,648           | 25                   | 128,988               | 124,465.78  | 128,657           |
| April.....         | 24                   | 114,283               | 110,272.10  | 137,207           | 26                   | 131,193               | 130,010.00  | 118,662           |

## UNITED STATES SHIPPING BOARD VESSELS.

|                    | Atlantic to Pacific. |                       |             |                   | Pacific to Atlantic. |                       |             |                   |
|--------------------|----------------------|-----------------------|-------------|-------------------|----------------------|-----------------------|-------------|-------------------|
|                    | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. | No. of<br>ships.     | P. C. net<br>tonnage. | Tolls.      | Tons of<br>cargo. |
| 1921.              |                      |                       |             |                   |                      |                       |             |                   |
| April.....         | 13                   | 61,176                | \$61,590.00 | 60,231            | 12                   | 56,049                | \$53,162.18 | 52,908            |
| May.....           | 9                    | 39,614                | 40,180.00   | 48,489            | 21                   | 97,257                | 92,380.47   | 114,107           |
| June.....          | 17                   | 86,361                | 78,770.14   | 65,945            | 11                   | 49,370                | 48,080.00   | 59,696            |
| July.....          | 12                   | 67,851                | 65,796.25   | 29,918            | 12                   | 60,804                | 61,305.00   | 82,767            |
| August.....        | 15                   | 76,570                | 71,607.58   | 46,542            | 18                   | 79,390                | 77,353.39   | 91,897            |
| September.....     | 10                   | 53,816                | 51,785.48   | 38,368            | 16                   | 84,433                | 82,566.25   | 109,610           |
| October.....       | 10                   | 55,300                | 53,475.00   | 34,593            | 14                   | 61,980                | 62,318.75   | 79,129            |
| November.....      | 12                   | 74,635                | 71,525.74   | 44,976            | 5                    | 29,949                | 29,127.50   | 28,865            |
| December.....      | 9                    | 47,004                | 46,318.75   | 44,101            | 6                    | 32,957                | 32,803.75   | 28,784            |
| January, 1922..... | 6                    | 34,546                | 34,756.25   | 23,575            | 7                    | 31,550                | 30,646.95   | 28,831            |
| February.....      | 8                    | 39,168                | 36,706.25   | 49,424            | 6                    | 32,909                | 31,538.75   | 21,119            |
| March.....         | 16                   | 84,766                | 86,531.95   | 90,633            | 9                    | 51,848                | 46,734.40   | 37,310            |
| April.....         | 7                    | 35,406                | 35,006.25   | 51,244            | 9                    | 49,140                | 50,900.85   | 43,783            |

## ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past 12 months, the figures representing the Panama Canal net tonnage:

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.                           | East coast<br>of United<br>States. | Europe. | Mexico. | Cristobal. | Miscel-<br>laneous. | Total.  |
|----------------------------------|------------------------------------|---------|---------|------------|---------------------|---------|
| 1921.                            |                                    |         |         |            |                     |         |
| April.....                       | 261,497                            | 131,840 | 46,289  | 21,846     | 31,034              | 492,506 |
| May.....                         | 231,751                            | 107,404 | 48,151  | 20,612     | 6,511               | 414,429 |
| June.....                        | 250,806                            | 79,129  | 37,401  | 28,920     | 19,046              | 415,302 |
| July.....                        | 221,318                            | 124,108 | 23,167  | 23,488     | 10,970              | 403,051 |
| August.....                      | 257,600                            | 175,768 | 15,527  | 21,202     | 17,122              | 487,219 |
| September.....                   | 277,984                            | 160,534 | 10,889  | 23,033     | 58,189              | 530,634 |
| October.....                     | 262,440                            | 226,431 | 27,828  | 20,516     | 33,960              | 571,175 |
| November.....                    | 301,680                            | 192,594 | 14,997  | 18,444     | 11,302              | 539,017 |
| December.....                    | 312,225                            | 198,287 | 21,113  | 15,601     | 28,443              | 575,669 |
| 1922.                            |                                    |         |         |            |                     |         |
| January.....                     | 279,870                            | 153,315 | 30,271  | 18,398     | 31,910              | 513,764 |
| February.....                    | 273,996                            | 146,572 | 30,477  | 19,061     | 17,899              | 488,005 |
| March.....                       | 382,213                            | 144,630 | 17,223  | 21,389     | 20,586              | 586,041 |
| April.....                       | 305,725                            | 138,836 | 15,443  | 17,508     | 43,176              | 520,688 |
| Average month for past year..... | 276,115                            | 153,384 | 26,945  | 21,043     | 23,914              | 501,401 |



## DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.                           | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|----------------------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| 1921.                            |                              |                              |           |              |                |         |
| April.....                       | 141,584                      | 135,622                      | 131,637   | 64,155       | 19,508         | 492,506 |
| May.....                         | 125,091                      | 103,143                      | 82,499    | 82,582       | 21,114         | 414,429 |
| June.....                        | 143,217                      | 106,369                      | 83,063    | 46,298       | 36,355         | 415,302 |
| July.....                        | 194,358                      | 45,391                       | 63,969    | 58,062       | 41,271         | 403,051 |
| August.....                      | 164,577                      | 106,886                      | 94,486    | 70,551       | 50,719         | 487,219 |
| September.....                   | 268,758                      | 90,105                       | 80,242    | 53,309       | 38,220         | 530,634 |
| October.....                     | 280,483                      | 78,532                       | 100,332   | 69,057       | 42,771         | 571,175 |
| November.....                    | 216,092                      | 107,721                      | 95,216    | 78,493       | 41,495         | 539,017 |
| December.....                    | 188,615                      | 115,980                      | 136,940   | 84,391       | 49,743         | 575,669 |
| 1922.                            |                              |                              |           |              |                |         |
| January.....                     | 170,927                      | 112,160                      | 109,878   | 83,526       | 46,273         | 513,764 |
| February.....                    | 151,388                      | 107,476                      | 107,197   | 94,271       | 27,673         | 488,005 |
| March.....                       | 195,833                      | 105,532                      | 149,697   | 83,107       | 51,872         | 586,041 |
| April.....                       | 145,819                      | 121,973                      | 121,594   | 81,436       | 49,566         | 520,688 |
| Average month for past year..... | 186,743                      | 101,243                      | 102,180   | 72,317       | 38,918         | 501,401 |

## ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.                           | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|----------------------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| 1921.                            |                              |                              |           |              |                |         |
| April.....                       | 139,495                      | 168,585                      | 29,756    | 85,560       | 38,601         | 462,997 |
| May.....                         | 174,128                      | 137,258                      | 12,407    | 81,086       | 45,309         | 450,188 |
| June.....                        | 116,521                      | 112,474                      | 18,740    | 75,400       | 23,040         | 346,175 |
| July.....                        | 174,412                      | 99,745                       | 41,084    | 70,124       | 22,197         | 407,562 |
| August.....                      | 229,629                      | 110,248                      | 20,628    | 68,661       | 48,894         | 478,067 |
| September.....                   | 218,453                      | 84,212                       | 14,762    | 30,814       | 46,262         | 394,503 |
| October.....                     | 252,645                      | 124,560                      | 37,720    | 41,436       | 42,018         | 498,379 |
| November.....                    | 189,942                      | 126,381                      | 23,556    | 6,581        | 56,934         | 403,394 |
| December.....                    | 195,969                      | 135,952                      | 28,194    | 39,616       | 41,844         | 441,575 |
| 1922.                            |                              |                              |           |              |                |         |
| January.....                     | 152,992                      | 100,224                      | 16,860    | 27,172       | 35,504         | 332,752 |
| February.....                    | 142,693                      | 110,778                      | 21,594    | 42,950       | 80,515         | 398,530 |
| March.....                       | 175,669                      | 104,847                      | 15,008    | 48,575       | 45,671         | 389,770 |
| April.....                       | 182,496                      | 124,842                      | 31,969    | 75,485       | 39,353         | 454,145 |
| Average month for past year..... | 183,796                      | 114,293                      | 23,544    | 50,658       | 43,962         | 416,253 |

## DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.                           | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|----------------------------------|---------|------------------------------|---------|------------|----------------|---------|
| 1921.                            |         |                              |         |            |                |         |
| April.....                       | 189,209 | 197,311                      | 53,334  | 22,043     | 1,100          | 462,997 |
| May.....                         | 201,548 | 140,940                      | 73,705  | 21,549     | 12,446         | 450,188 |
| June.....                        | 155,147 | 136,292                      | 18,324  | 26,112     | 10,300         | 346,175 |
| July.....                        | 205,690 | 134,047                      | 23,133  | 28,770     | 15,932         | 407,562 |
| August.....                      | 231,830 | 194,279                      | 27,256  | 22,022     | 5,536          | 478,067 |
| September.....                   | 204,820 | 140,555                      | 26,478  | 17,114     | 2,670          | 394,503 |
| October.....                     | 259,613 | 170,189                      | 18,222  | 30,955     | 19,400         | 498,379 |
| November.....                    | 196,974 | 164,345                      | 20,446  | 16,760     | 4,369          | 403,394 |
| December.....                    | 191,277 | 192,575                      | 25,550  | 21,739     | 10,434         | 441,575 |
| 1922.                            |         |                              |         |            |                |         |
| January.....                     | 115,392 | 168,337                      | 26,831  | 16,489     | 5,703          | 332,752 |
| February.....                    | 163,919 | 172,900                      | 31,767  | 18,242     | 11,702         | 398,530 |
| March.....                       | 134,687 | 193,267                      | 34,969  | 18,724     | 8,123          | 389,770 |
| April.....                       | 169,493 | 242,087                      | 6,615   | 20,206     | 15,684         | 454,145 |
| Average month for past year..... | 185,866 | 170,818                      | 27,774  | 21,562     | 10,233         | 416,253 |

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of April, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year.

|                                  | Tonnage routed to— |                    | Tonnage routed from— |                    |
|----------------------------------|--------------------|--------------------|----------------------|--------------------|
|                                  | Per cent increase. | Per cent decrease. | Per cent increase.   | Per cent decrease. |
| Europe.....                      |                    | 8.8                |                      | 9.4                |
| East coast of United States..... | 41.7               |                    | 10.7                 |                    |
| East coast of Mexico.....        |                    | 76.2               |                      | 42.7               |
| Cristobal, C. Z.....             | 53.2               |                    |                      | 16.8               |
| West coast of United States..... |                    | 21.9               |                      | .7                 |
| West coast of South America..... | 20.4               |                    | 9.2                  |                    |
| Australasia.....                 | 12.6               |                    | 49.0                 |                    |
| Far East.....                    | 19.0               |                    | 35.8                 |                    |

## TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of April, 1922, was published in THE PANAMA CANAL RECORD under date of May 10, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes for the month of April, 1922, as compared with the preceding month, and with the corresponding month of last year.

| Vessels plying between—              | Atlantic to Pacific.      |              |              | Pacific to Atlantic.      |              |              |
|--------------------------------------|---------------------------|--------------|--------------|---------------------------|--------------|--------------|
|                                      | April, 1922.              | March, 1922. | April, 1921. | April, 1922.              | March, 1922. | April, 1921. |
|                                      | Number of vessels.        |              |              | Number of vessels.        |              |              |
| United States coastwise ports.....   | 24                        | 34           | 19           | 26                        | 25           | 14           |
| United States and Far East.....      | 19                        | 26           | 12           | 6                         | 3            | 6            |
| Europe and United States.....        | 6                         | 6            | 5            | 7                         | 7            | 9            |
| United States and South America..... | 18                        | 14           | 14           | 17                        | 11           | 24           |
| Europe and South America.....        | 9                         | 9            | 12           | 11                        | 11           | 10           |
| Cristobal and South America.....     | 8                         | 7            | 10           | 10                        | 8            | 10           |
| Europe and Australasia.....          | 8                         | 9            | 9            | 9                         | 8            | 12           |
| United States and Australasia.....   | 2                         | 5            | 9            | 4                         | 3            | 1            |
| Europe and Canada.....               | 1                         | 3            | 3            | 3                         | 3            | 3            |
| Mexico and United States.....        | 2                         | 2            | 5            | 2                         | 2            | 5            |
| Mexico and South America.....        | 2                         | 2            | 5            | 4                         | 4            | 4            |
| Miscellaneous.....                   | 24                        | 23           | 19           | 16                        | 14           | 11           |
| Totals.....                          | 121                       | 138          | 118          | 109                       | 96           | 109          |
|                                      | Panama Canal net tonnage. |              |              | Panama Canal net tonnage. |              |              |
|                                      | April, 1922.              | March, 1922. | April, 1921. | April, 1922.              | March, 1922. | April, 1921. |
|                                      | Tons of cargo carried.    |              |              | Tons of cargo carried.    |              |              |
| United States coastwise ports.....   | 114,283                   | 162,572      | 92,033       | 131,193                   | 128,988      | 68,368       |
| United States and Far East.....      | 97,507                    | 128,520      | 65,424       | 31,969                    | 15,008       | 29,756       |
| Europe and United States.....        | 31,536                    | 26,581       | 24,706       | 39,681                    | 33,071       | 40,491       |
| United States and South America..... | 55,628                    | 43,265       | 46,937       | 60,000                    | 28,413       | 83,069       |
| Europe and South America.....        | 38,702                    | 39,648       | 46,786       | 46,008                    | 41,307       | 47,192       |
| Cristobal and South America.....     | 13,518                    | 12,543       | 14,021       | 18,060                    | 12,552       | 16,777       |
| Europe and Australasia.....          | 57,728                    | 54,848       | 51,238       | 56,130                    | 44,483       | 81,786       |
| United States and Australasia.....   | 13,513                    | 28,259       | 48,315       | 13,861                    |              | 4,774        |
| Europe and Canada.....               | 6,334                     | 18,032       | 9,110        | 19,019                    | 15,826       | 16,267       |
| Mexico and United States.....        |                           |              | 10,903       |                           | 9,854        | 26,880       |
| Mexico and South America.....        | 10,132                    | 10,076       | 25,777       |                           | 19,788       | 21,025       |
| Miscellaneous.....                   | 81,807                    | 61,697       | 57,256       | 38,224                    | 40,480       | 26,712       |
| Totals.....                          | 520,688                   | 586,041      | 492,506      | 454,145                   | 389,770      | 462,997      |
|                                      | Tons of cargo carried.    |              |              | Tons of cargo carried.    |              |              |
|                                      | April, 1922.              | March, 1922. | April, 1921. | April, 1922.              | March, 1922. | April, 1921. |
|                                      | Tons of cargo carried.    |              |              | Tons of cargo carried.    |              |              |
| United States coastwise ports.....   | 137,207                   | 141,648      | 94,484       | 118,622                   | 123,657      | 59,306       |
| United States and Far East.....      | 151,230                   | 192,249      | 80,674       | 33,874                    | 13,913       | 11,303       |
| Europe and United States.....        | 29,054                    | 22,735       | 10,284       | 55,368                    | 54,268       | 63,763       |
| United States and South America..... | 46,155                    | 25,879       | 45,940       | 89,037                    | 29,098       | 90,765       |
| Europe and South America.....        | 28,887                    | 17,545       | 24,944       | 56,119                    | 45,998       | 69,516       |
| Cristobal and South America.....     | 3,026                     | 3,441        | 3,908        | 6,486                     | 3,813        | 5,356        |
| Europe and Australasia.....          | 32,815                    | 35,505       | 31,792       | 50,182                    | 45,210       | 69,692       |
| United States and Australasia.....   | 16,615                    | 29,780       | 65,621       | 10,332                    |              | 5,420        |
| Europe and Canada.....               | 3,900                     | 21,692       | 5,413        | 29,370                    | 24,556       | 22,827       |
| Mexico and United States.....        |                           |              | 20,500       |                           |              | 955          |
| Mexico and South America.....        | 19,600                    | 19,100       | 46,368       |                           |              |              |
| Miscellaneous.....                   | 93,944                    | 72,378       | 71,864       | 34,224                    | 32,624       | 16,909       |
| Totals.....                          | 562,433                   | 581,952      | 500,801      | 483,614                   | 378,137      | 406,812      |

## TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was \$927,977.09. Had the net tonnage as determined by the Panama Canal rules of

measurement been used throughout as a basis for collecting tolls, the total revenue would have been increased by \$213,793.57. These additional tolls would have been contributed by nationality of vessels as follows:

|                    | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------|----------------------------|----------------------------|-------------|
| British.....       | \$39,222.45                | \$21,124.15                | \$60,346.60 |
| Chilean.....       | 2,990.00                   | 4,671.35                   | 7,661.35    |
| Danish.....        | 3,382.80                   | 1,350.75                   | 4,733.55    |
| Dutch.....         | 5,883.75                   | 3,867.75                   | 9,751.50    |
| French.....        |                            | 475.20                     | 475.20      |
| German.....        | 627.30                     | 2,565.85                   | 3,193.15    |
| Japanese.....      | 6,274.50                   | 3,166.05                   | 9,440.55    |
| Norwegian.....     | 3,534.44                   | 2,596.25                   | 6,130.69    |
| Peruvian.....      | 3,308.45                   | 4,666.65                   | 7,975.10    |
| Swedish.....       | 2,071.55                   | 2,387.10                   | 4,458.65    |
| United States..... | 46,500.58                  | 53,126.65                  | 99,627.23   |
| Totals.....        | 113,795.82                 | 99,997.75                  | 213,793.57  |

The additional tolls which would have been assessed against United States vessels would have been distributed among the following channels of trade:

|                                                  | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------------------------------------|----------------------------|----------------------------|-------------|
| United States coastwise ports.....               | \$25,356.15                | \$30,297.70                | \$55,653.85 |
| United States and Canal Zone ports.....          | 166.05                     | 364.10                     | 530.15      |
| United States and United States possessions..... | 2,443.75                   | 5,439.05                   | 7,882.80    |
| United States and foreign ports.....             | 16,380.10                  | 15,637.00                  | 32,017.10   |
| Between foreign ports.....                       | 2,154.53                   | 1,388.80                   | 3,543.33    |
| Totals.....                                      | 46,500.58                  | 53,126.65                  | 99,627.23   |

Of the \$213,793.57 additional revenue that would have been collected by using the Panama Canal rules of measurement exclusively, \$8,644.80 represents the additional tolls that would have been collected on account of deck cargo.

#### AVERAGE TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

All cargo-carrying vessels pay tolls on their net tonnage as determined by established rules for measuring their available cargo-carrying space; the rate of such tolls per cargo ton varying in different vessels and in vessels of different nationalities with the ratio of cargo tonnage to net tonnage. The table below is indicative of the ratio of cargo tonnage to net tonnage for the month of April, 1922, by nationality of vessels.

|                                                | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | General<br>average. |
|------------------------------------------------|----------------------------|----------------------------|---------------------|
| British.....                                   | \$1.02                     | \$0.99                     | \$1.01              |
| Chilean.....                                   | 1.52                       | 3.61                       | 2.33                |
| Danish.....                                    | .91                        | .62                        | .79                 |
| Dutch.....                                     | .80                        | .72                        | .76                 |
| French.....                                    | 1.50                       | .76                        | .91                 |
| German.....                                    | 1.27                       | .66                        | .80                 |
| Japanese.....                                  | .67                        | .90                        | .75                 |
| Norwegian.....                                 | .78                        | .61                        | .74                 |
| Peruvian.....                                  | 3.67                       | .88                        | 1.27                |
| Swedish.....                                   | .62                        | .51                        | .56                 |
| United States.....                             | .79                        | .92                        | .85                 |
| Average rate for all vessels, April, 1922..... | .86                        | .91                        | .89                 |
| Average rate for all vessels, March, 1922..... | .99                        | .99                        | .99                 |
| Average rate for all vessels, April, 1921..... | .98                        | 1.07                       | 1.02                |

#### COMMODITY STATISTICS.

A classification of cargo passing through the Panama Canal during the month of April, 1922, has been compiled from declarations of cargo and manifests submitted by the ships' masters, and while incomplete, it is indicative of the kind and quantity

of the various commodities carried by vessels transiting the Canal. From the cargo declarations and manifests submitted it was possible to classify by commodities 66 per cent of all cargo passing from the Atlantic to the Pacific, and 93 per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith.

| Commodity.                      | April,<br>1922. | March,<br>1922. | April,<br>1921. |
|---------------------------------|-----------------|-----------------|-----------------|
| <i>Atlantic to Pacific.</i>     |                 |                 |                 |
| Manufactured goods:             |                 |                 |                 |
| Iron and steel                  | 94,160          | 130,906         | 78,645          |
| Railroad material               | 24,080          | 10,746          | 7,569           |
| Machinery                       | 6,179           | 8,792           | 8,600           |
| Textiles, etc.                  | 5,431           | 5,864           | 7,200           |
| Oils:                           |                 |                 |                 |
| Refined                         | 36,854          | 32,679          | 48,126          |
| Crude                           | 29,834          | 41,504          | 112,257         |
| Lubricating                     | 5,404           | 3,377           | .....           |
| Linseed                         | 1,629           | 785             | .....           |
| Coal and coke                   | 56,414          | 50,487          | 39,915          |
| Sugar                           | 41,173          | 41,012          | 25,216          |
| Metals:                         |                 |                 |                 |
| Tin                             | 8,769           | 17,090          | 8,950           |
| Copper                          | 2,238           | 1,430           | 79              |
| Iron                            | 1,847           | 8,808           | 3,247           |
| Fertilizers                     | 5,373           | .....           | .....           |
| Cement                          | 4,762           | 4,364           | 5,412           |
| Glass and glassware             | 3,536           | 3,334           | 3,519           |
| Paper                           | 3,311           | 2,543           | 1,448           |
| Coffee                          | 3,202           | 377             | 3,476           |
| Cotton                          | 2,412           | 7,507           | 2,692           |
| Phosphates                      | 1,515           | 155             | 503             |
| Ammonia                         | 1,393           | 6,716           | .....           |
| Liquors                         | 1,149           | 1,124           | 1,265           |
| Tobacco                         | 973             | 4,683           | 3,880           |
| Other and general               | 220,785         | 197,669         | 138,802         |
| Totals                          | 562,433         | 581,952         | 500,801         |
| <i>Pacific to Atlantic.</i>     |                 |                 |                 |
| Lumber                          | 102,194         | 74,432          | 23,339          |
| Nitrate                         | 79,325          | 22,231          | 118,729         |
| Wheat                           | 53,378          | 23,212          | 39,108          |
| Sugar                           | 23,568          | 6,386           | 8,379           |
| Wool                            | 21,932          | 20,581          | 16,384          |
| Barley                          | 19,360          | 7,362           | 12,152          |
| Cold storage and food products: |                 |                 |                 |
| Beef                            | 1,243           | 6,906           | 6,878           |
| Butter                          | 2,304           | 2,381           | 6,440           |
| Cheese                          | 2,264           | 2,086           | 6,901           |
| Mutton                          | 12,097          | 7,644           | 12,246          |
| Tallow                          | 2,500           | 839             | 2,564           |
| Canned goods:                   |                 |                 |                 |
| Fish                            | 4,964           | 12,855          | 3,735           |
| Fruit                           | 10,024          | 20,544          | 6,227           |
| Other                           | 1,318           | 1,535           | 3,544           |
| Metals:                         |                 |                 |                 |
| Copper                          | 11,388          | 9,942           | 12,494          |
| Lead                            | 4,480           | 4,659           | 766             |
| Other                           | 548             | 3,621           | 268             |
| Oils:                           |                 |                 |                 |
| Crude                           | 10,177          | 8,907           | .....           |
| Coconut                         | 3,584           | 1,156           | .....           |
| Other                           | 1,684           | 22,212          | 22,030          |
| Ores:                           |                 |                 |                 |
| Copper                          | 7,439           | 2,719           | 8,259           |
| Tin                             | 3,816           | 1,116           | 1,309           |
| Other                           | 215             | 357             | 5,184           |
| Coffee                          | 12,350          | 16,210          | 7,754           |
| Flour                           | 9,245           | 3,147           | 17,549          |
| Cacao                           | 4,910           | 2,518           | 1,279           |
| Fruit:                          |                 |                 |                 |
| Fresh                           | 2,484           | 1,021           | 1,442           |
| Dried                           | 4,582           | 6,214           | 1,301           |
| Oats                            | 4,029           | 938             | 297             |
| Beans, peas, lentils, etc.      | 3,465           | 7,616           | 1,622           |
| Borax                           | 3,424           | 3,101           | 1,004           |
| Skins and hides                 | 3,253           | 2,488           | 688             |
| Copra                           | 3,059           | 5,936           | 3,629           |
| Rice                            | 2,944           | 801             | 20              |
| Cotton                          | 2,801           | 4,837           | 633             |
| Ivory                           | 1,458           | 1,527           | 988             |
| Other and general               | 45,808          | 58,100          | 51,670          |
| Totals                          | 483,614         | 378,137         | 406,812         |



## CLASSIFICATION OF COMMERCIAL TRAFFIC BY NATIONALITY, APRIL, 1922.

| Nationality.                | No.<br>of<br>ships. | TONNAGE.                        |                         |             |         | Tolls.       | Tons<br>of cargo. |
|-----------------------------|---------------------|---------------------------------|-------------------------|-------------|---------|--------------|-------------------|
|                             |                     | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered. |         |              |                   |
|                             |                     |                                 |                         | Gross.      | Net.    |              |                   |
| From Atlantic to Pacific.   |                     |                                 |                         |             |         |              |                   |
| British.....                | 42                  | 143,499                         | 182,746                 | 230,353     | 143,671 | \$177,887 07 | 162,340           |
| Chilean.....                | 3                   | 5,081                           | 7,767                   | 10,127      | 6,001   | 6,330 40     | 4,160             |
| Danish.....                 | 3                   | 9,840                           | 13,069                  | 15,451      | 9,838   | 12,300 00    | 13,588            |
| Dutch.....                  | 4                   | 13,869                          | 19,320                  | 22,268      | 13,589  | 17,336 25    | 21,668            |
| French.....                 | 1                   | 4,326                           | 4,363                   | 5,993       | 3,743   | 5,235 60     | 3,482             |
| German.....                 | 1                   | 4,446                           | 5,154                   | 7,056       | 4,493   | 5,557 59     | 4,360             |
| Japanese.....               | 8                   | 29,943                          | 36,270                  | 46,506      | 29,521  | 37,249 51    | 55,907            |
| Norwegian.....              | 8                   | 17,732                          | 20,594                  | 27,705      | 17,213  | 21,435 16    | 27,340            |
| Peruvian.....               | 2                   | 2,495                           | 5,356                   | 8,049       | 4,187   | 3,118 75     | 849               |
| Swedish.....                | 2                   | 4,097                           | 5,994                   | 6,837       | 5,054   | 5,121 25     | 8,297             |
| United States.....          | 47                  | 174,078                         | 220,055                 | 269,770     | 172,956 | 213,747 98   | 260,442           |
| Totals, April, 1922.....    | 121                 | 409,406                         | 529,688                 | 650,055     | 410,266 | 505,319 46   | 562,433           |
| Totals, March, 1922.....    | 138                 | 472,020                         | 586,041                 | 724,316     | 461,154 | 580,374 55   | 581,952           |
| Totals, April, 1921.....    | 118                 | 397,568                         | 492,506                 | 615,818     | 391,141 | 490,505 91   | 500,801           |
| From Pacific to Atlantic.   |                     |                                 |                         |             |         |              |                   |
| British.....                | 36                  | 113,768                         | 135,755                 | 173,118     | 109,020 | 138,506 57   | 134,829           |
| Chilean.....                | 4                   | 7,637                           | 11,848                  | 16,302      | 9,174   | 9,546 25     | 2,647             |
| Danish.....                 | 1                   | 4,473                           | 5,588                   | 7,014       | 4,470   | 5,591 25     | 9,004             |
| Dutch.....                  | 3                   | 10,149                          | 13,331                  | 16,468      | 10,558  | 12,686 25    | 17,546            |
| French.....                 | 2                   | 8,083                           | 8,861                   | 10,496      | 5,593   | 9,988 80     | 13,172            |
| German.....                 | 2                   | 7,483                           | 9,933                   | 11,971      | 7,554   | 9,353 75     | 14,200            |
| Japanese.....               | 5                   | 20,817                          | 24,017                  | 30,945      | 20,492  | 25,657 95    | 28,451            |
| Norwegian.....              | 3                   | 4,091                           | 6,425                   | 6,784       | 4,069   | 5,113 75     | 8,377             |
| Peruvian.....               | 3                   | 3,699                           | 7,742                   | 12,452      | 6,277   | 4,623 75     | 5,249             |
| Swedish.....                | 2                   | 4,770                           | 6,932                   | 7,811       | 5,808   | 5,962 50     | 11,719            |
| United States.....          | 48                  | 177,556                         | 223,913                 | 275,922     | 178,247 | 220,905 83   | 238,420           |
| Totals, April, 1922.....    | 109                 | 362,526                         | 454,145                 | 569,283     | 362,562 | 447,936 65   | 483,614           |
| Totals, March, 1922.....    | 96                  | 314,739                         | 389,770                 | 502,655     | 314,880 | 376,352 21   | 378,137           |
| Totals, April, 1921.....    | 109                 | 373,548                         | 462,997                 | 587,269     | 366,435 | 437,471 18   | 406,812           |
| Combined traffic both ways. |                     |                                 |                         |             |         |              |                   |
| British.....                | 78                  | 257,267                         | 318,501                 | 403,471     | 252,691 | 316,393 64   | 297,169           |
| Chilean.....                | 7                   | 12,718                          | 19,615                  | 26,429      | 15,175  | 15,876 65    | 6,807             |
| Danish.....                 | 4                   | 14,313                          | 18,657                  | 22,465      | 14,308  | 17,891 25    | 22,592            |
| Dutch.....                  | 7                   | 24,018                          | 32,651                  | 38,766      | 24,447  | 30,022 50    | 39,214            |
| French.....                 | 3                   | 12,409                          | 13,024                  | 16,399      | 10,336  | 15,224 40    | 16,654            |
| German.....                 | 3                   | 11,929                          | 15,087                  | 19,027      | 12,047  | 14,911 25    | 18,560            |
| Japanese.....               | 13                  | 50,760                          | 60,287                  | 77,451      | 50,013  | 62,907 45    | 84,358            |
| Norwegian.....              | 11                  | 21,823                          | 27,019                  | 34,489      | 21,282  | 26,548 91    | 35,717            |
| Peruvian.....               | 5                   | 6,194                           | 13,098                  | 20,501      | 10,464  | 7,742 50     | 6,098             |
| Swedish.....                | 4                   | 8,867                           | 12,926                  | 14,648      | 10,862  | 11,083 75    | 20,016            |
| United States.....          | 95                  | 351,634                         | 443,968                 | 545,992     | 351,203 | 434,653 81   | 498,862           |
| Totals, April, 1922.....    | 230                 | 771,932                         | 974,833                 | 1,219,338   | 772,828 | 953,256 11   | 1,046,047         |
| Totals, March, 1922.....    | 234                 | 786,759                         | 975,811                 | 1,226,971   | 776,034 | 956,726 76   | 960,089           |
| Totals, April, 1921.....    | 227                 | 771,116                         | 955,503                 | 1,230,087   | 757,576 | 927,977 09   | 907,613           |

## LATIN-AMERICAN TRAFFIC.

## ATLANTIC TO PACIFIC.

| Nationality.              | No.<br>of<br>ships. | TONNAGE.                        |                         |             |         | Tolls.      | Tons<br>of cargo. |
|---------------------------|---------------------|---------------------------------|-------------------------|-------------|---------|-------------|-------------------|
|                           |                     | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered. |         |             |                   |
|                           |                     |                                 |                         | Gross.      | Net.    |             |                   |
| United States .....       | 13                  | 40,773                          | 49,134                  | 63,731      | 40,541  | \$47,980.38 | 44,111            |
| British .....             | 21                  | 62,154                          | 75,176                  | 98,379      | 61,809  | 75,997.97   | 70,274            |
| Norwegian .....           | 6                   | 10,495                          | 12,414                  | 16,497      | 10,266  | 12,388.91   | 11,556            |
| Chilean .....             | 3                   | 5,081                           | 7,767                   | 10,127      | 6,001   | 6,330.40    | 4,160             |
| Peruvian .....            | 2                   | 2,495                           | 5,356                   | 8,049       | 4,187   | 3,118.75    | 849               |
| Danish .....              | 2                   | 6,596                           | 9,053                   | 10,232      | 6,501   | 8,245.00    | 9,213             |
| Japanese .....            | 3                   | 9,425                           | 11,577                  | 14,897      | 9,352   | 11,781.25   | 16,757            |
| Swedish .....             | 1                   | 1,349                           | 1,458                   | 2,316       | 1,630   | 1,686.25    | 1,130             |
| Dutch .....               | 2                   | 4,399                           | 7,452                   | 7,107       | 4,396   | 5,498.75    | 4,220             |
| German .....              | 1                   | 4,446                           | 5,154                   | 7,056       | 4,493   | 5,557.50    | 4,360             |
| Totals, April, 1922 ..... | 54                  | 147,213                         | 184,541                 | 238,391     | 149,176 | 178,585.16  | 166,630           |
| Totals, March, 1922 ..... | 50                  | 120,157                         | 152,845                 | 195,943     | 120,607 | 144,979.14  | 121,290           |
| Totals, April, 1921 ..... | 58                  | 147,700                         | 188,679                 | 241,751     | 151,087 | 182,232.50  | 197,113           |

## THE PANAMA CANAL RECORD

PACIFIC TO ATLANTIC.

| Nationality.             | No. of ships. | TONNAGE.                  |                   |             |         | Tolls.      | Tons of cargo. |
|--------------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                          |               | United States equivalent. | Panama Canal net. | Registered. |         |             |                |
|                          |               |                           |                   | Gross.      | Net.    |             |                |
| United States.....       | 11            | 30,763                    | 37,445            | 49,375      | 30,929  | \$37,990.18 | 55,819         |
| British.....             | 22            | 45,071                    | 58,826            | 75,012      | 45,699  | 54,317.26   | 65,755         |
| Norwegian.....           | 3             | 4,091                     | 6,425             | 6,784       | 4,069   | 5,113.75    | 8,377          |
| Chilean.....             | 4             | 7,637                     | 11,848            | 16,302      | 9,174   | 9,546.25    | 2,647          |
| Peruvian.....            | 3             | 3,699                     | 7,742             | 12,452      | 6,277   | 4,623.75    | 5,249          |
| Swedish.....             | 1             | 1,340                     | 1,399             | 2,257       | 1,583   | 1,675.00    | 2,675          |
| Dutch.....               | 1             | 2,494                     | 3,195             | 4,385       | 3,195   | 3,117.50    | 2,175          |
| German.....              | 2             | 7,483                     | 9,933             | 11,971      | 7,554   | 9,353.75    | 14,200         |
| French.....              | 1             | 3,600                     | 4,146             | 5,765       | 3,681   | 4,500.00    | 6,450          |
| Totals, April, 1922..... | 48            | 106,178                   | 140,959           | 184,303     | 112,161 | 130,237.44  | 163,347        |
| Totals, March, 1922..... | 45            | 102,092                   | 127,444           | 171,129     | 104,701 | 114,722.68  | 87,163         |
| Totals, April, 1921..... | 62            | 173,766                   | 212,587           | 280,957     | 173,393 | 192,143.57  | 160,873        |

A further classification of the commercial traffic is shown below:

|                         | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|-------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                         | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels: |                      |                           |              |                      |                           |              |
| Laden.....              | 114                  | 495,420                   | \$484,720.45 | 105                  | 445,660                   | \$441,827.45 |
| Ballast.....            | 5                    | 16,864                    | 12,155.82    | 3                    | 8,333                     | 5,999.76     |
| Tug.....                | 1                    | 152                       | 109.44       | 1                    | 152                       | 109.44       |
| Passenger ship.....     | 1                    | 8,252                     | 8,333.75     |                      |                           |              |
| Totals.....             | 121                  | 520,688                   | 505,319.46   | 109                  | 454,145                   | 447,936.65   |
| Steamships.....         | 112                  | 494,031                   | 479,715.42   | 104                  | 442,728                   | 437,303.01   |
| Motor ships.....        | 5                    | 24,303                    | 22,867.50    | 2                    | 11,121                    | 10,366.70    |
| Motor schooners.....    | 2                    | 144                       | 157.50       | 2                    | 144                       | 157.50       |
| Sailing vessel.....     | 1                    | 2,058                     | 2,469.60     |                      |                           |              |
| Tug.....                | 1                    | 152                       | 109.44       | 1                    | 152                       | 109.44       |
| Totals.....             | 121                  | 520,688                   | 505,319.46   | 109                  | 454,145                   | 447,936.65   |

## VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following tabulation:

|                    | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |          |
|--------------------|----------------------|---------------------------|------------|----------------------|---------------------------|----------|
|                    | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.   |
| British.....       | 1                    | 4,459                     | \$3,210.48 | 1                    | 1,304                     | \$938.88 |
| Norwegian.....     | 1                    | 1,762                     | 1,280.16   |                      |                           |          |
| United States..... | 3                    | 10,643                    | 7,665.18   | 2                    | 7,029                     | 5,060.88 |
| Totals.....        | 5                    | 16,864                    | 12,155.82  | 3                    | 8,333                     | 5,999.76 |

## NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the month of April, 1922. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated. This statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Panama Canal; these, although paying tolls, are not included in the commercial traffic.

|                                         | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |            |
|-----------------------------------------|----------------------|---------------------------|------------|----------------------|---------------------------|------------|
|                                         | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
| United States naval vessels:            |                      |                           |            |                      |                           |            |
| Transport.....                          | 1                    | 3,050                     | \$3,812.50 |                      |                           |            |
| Supply ships.....                       | 2                    | 7,814                     | 9,767.50   |                      |                           |            |
| Cruisers.....                           | 1                    | 3,200                     | 1,600.00   | 2                    | 6,950                     | \$3,475.00 |
| Tugs.....                               | 1                    | 1,000                     | 500.00     | 2                    | 2,000                     | 1,000.00   |
| United States Army vessels, transports. |                      |                           |            | 3                    | 11,757                    | 14,696.25  |
| Commercial, for repairs.....            | 1                    | 3,524                     | 2,815.00   | 1                    | 6,970                     | 8,122.50   |
| Launches.....                           | 8                    | 43                        | 36.35      | 1                    | 2                         | 1.50       |
| Totals.....                             | 14                   |                           | 18,531.35  | 9                    |                           | 27,295.25  |

\* Registered net tonnage.

\* Displacement tonnage.

\* Panama Canal net tonnage.

The vessels listed above, as transiting the Canal free of tolls, carried cargo as follows:

|                          |              |
|--------------------------|--------------|
| Atlantic to Pacific..... | Tons. 19,253 |
| Pacific to Atlantic..... | 12,372       |

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of April, 1922, are shown in the following tabulations:

|                                                      |      | Cristobal. | Balboa.   | Total.    |
|------------------------------------------------------|------|------------|-----------|-----------|
| Local cargo arriving.....                            | tons | 39,311     | 11,161    | 50,472    |
| Local cargo shipped.....                             | tons | 1,914      |           | 1,914     |
| Transit cargo arriving.....                          | tons | 1,073,748  | 1,064,904 | 2,138,652 |
| Transit cargo clearing.....                          | tons | 1,072,583  | 1,087,209 | 2,159,792 |
| Cargo received for transshipment.....                | tons | 28,459     | 1,872     | 30,331    |
| Cargo transhipped.....                               | tons | 28,337     | 1,731     | 30,068    |
| Vessels supplied with bunker coal:                   |      |            |           |           |
| Commercial, other than Panama Railroad.....          |      | 49         | 22        | 71        |
| Panama Railroad vessels.....                         |      | 5          |           | 5         |
| United States Army vessel.....                       |      | 1          |           | 1         |
| Total vessels supplied with bunker coal.....         |      | 55         | 22        | 77        |
| Coal supplied to above vessels:                      |      |            |           |           |
| Commercial, other than Panama Railroad.....          | tons | 17,526     | 7,300     | 24,826    |
| Panama Railroad vessels.....                         | tons | 831        |           | 831       |
| United States Army vessel.....                       | tons | 1          |           | 1         |
| Total coal supplied to vessels.....                  | tons | 18,358     | 7,300     | 25,658    |
| Coal issues, miscellaneous:                          |      |            |           |           |
| Panama Canal departments.....                        | tons | 330        | 34        | 364       |
| Panama Railroad Company.....                         | tons | 27         | 11        | 38        |
| United States Army, excepting vessels.....           | tons | 290        |           | 290       |
| Individuals and companies.....                       | tons | 337        |           | 337       |
| Miscellaneous issues, total.....                     | tons | 984        | 45        | 1,029     |
| Total issues from Panama Canal deposits:             |      |            |           |           |
| April, 1922.....                                     | tons | 19,342     | 7,345     | 26,687    |
| March, 1922.....                                     | tons | 20,969     | 2,822     | 23,791    |
| April, 1921.....                                     | tons | 29,353     | 2,461     | 31,814    |
| Coal on hand, May 1, 1922.....                       | tons | 133,395    | 17,194    | 150,589   |
| Coal on hand, April 1, 1922.....                     | tons | 131,326    | 24,539    | 155,875   |
| Coal received during the month.....                  | tons | 21,401     |           | 21,401    |
| <i>United States Navy coal account.</i>              |      |            |           |           |
| Issued to United States Navy, including vessels..... | tons | 1,859      |           | 1,859     |
| Received during the month.....                       | tons | 8          |           | 8         |
| Coal on hand, May 1, 1922.....                       | tons | 57,159     | 15,186    | 72,345    |
| Coal on hand, April 1, 1922.....                     | tons | 59,010     | 15,186    | 74,196    |
| Fuel oil issues:                                     |      |            |           |           |
| Panama Canal departments.....                        | bbls | 3,972      | 17,647    | 21,619    |
| Panama Railroad.....                                 | bbls | 494        | 153       | 647       |
| Army and Navy.....                                   | bbls | 1,097      |           | 1,097     |
| Individuals and companies.....                       | bbls |            | 15        | 15        |
| Total issues and sales.....                          | bbls | 5,563      | 17,815    | 23,378    |
| Fuel oil on hand, May 1, 1922.....                   | bbls | 31,890     | 59,565    | 91,455    |
| Fuel oil on hand, April 1, 1922.....                 | bbls | 37,453     | 77,380    | 114,833   |

|                                            |       | Cristobal | Balboa. | Total.  |
|--------------------------------------------|-------|-----------|---------|---------|
| Diesel oil issued during April, 1922       | bbls. | 33        | 20      | 53      |
| Diesel oil on hand, May 1, 1922            | bbls. | 50,731    | 895     | 51,626  |
| Diesel oil on hand, April 1, 1922          | bbls. | 50,764    | 915     | 51,679  |
| Oil pumped for individuals and companies   | bbls. | 425,663   | 116,295 | 541,958 |
| Miscellaneous transfers                    | bbls. | 5,421     | 1,619   | 7,040   |
| Total oil handled                          | bbls. | 436,680   | 135,749 | 572,429 |
| Admeasurement certificates:                |       |           |         |         |
| United States equivalent issued or made    |       | 23        | 2       | 25      |
| Measured for Panama Canal net tonnage      |       | 4         |         | 4       |
| Remeasured for Panama Canal net tonnage    |       | 15        | 4       | 19      |
| Panama Canal net tonnage corrected         |       | 16        | 4       | 20      |
| United States equivalent tonnage corrected |       | 10        | 9       | 19      |
| Services of harbor equipment:              |       |           |         |         |
| Tugs, total operating hours                |       | 401       | 567     | 968     |
| Scows, total operating hours               |       |           | 135     | 135     |
| Launches, total operating hours            |       | 1,149     | 1,205   | 2,354   |
| Vessels repaired at Panama Canal shops:    |       |           |         |         |
| Commercial                                 |       | 29        | 24      | 53      |
| Government                                 |       | 8         | 4       | 12      |
| Canal equipment                            |       |           | 17      | 17      |
| Vessels dry-docked:                        |       |           |         |         |
| Commercial                                 |       | 3         | 5       | 8       |
| Government                                 |       |           | 1       | 1       |
| Canal equipment                            |       |           | 2       |         |
| Clearances issued                          |       | 159       | 133     | 292     |
| Bills of health issued                     |       | 152       | 133     | 285     |

## ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal:

|                                                               | Port of Cristobal. |                   |                 | Port of Balboa. |                   |                 |
|---------------------------------------------------------------|--------------------|-------------------|-----------------|-----------------|-------------------|-----------------|
|                                                               | No. of ships.      | Tonnage.          |                 | No. of ships.   | Tonnage.          |                 |
|                                                               |                    | Registered gross. | Registered net. |                 | Registered gross. | Registered net. |
| Ships entering.                                               |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting Canal                 | 291                | 1,533,854         | 969,533         | 244             | 1,282,856         | 808,589         |
| Vessels entering the port but not transiting Canal            | 59                 | 268,903           | 164,575         | 6               | 13,983            | 8,499           |
| Vessels transiting the Canal and handling passengers or cargo | 59                 | 270,251           | 166,231         | 46              | 186,183           | 110,211         |
| Ships clearing.                                               |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting Canal                 | 289                | 1,543,434         | 973,758         | 247             | 1,328,532         | 852,652         |
| Vessels entering port but not transiting the Canal            | 62                 | 294,380           | 180,799         | 8               | 47,021            | 41,521          |
| Vessels transiting the Canal and handling passengers or cargo | 53                 | 244,285           | 150,141         | 45              | 181,312           | 107,161         |

## MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of April, 1922:

|                     | At Cristobal. |         |        | At Balboa.   |         |        |
|---------------------|---------------|---------|--------|--------------|---------|--------|
|                     | First class.  | Others. | Total. | First class. | Others. | Total. |
| Disembarking:       |               |         |        |              |         |        |
| From Atlantic ports | 892           | 901     | 1,793  | 5            |         | 5      |
| From Pacific ports  | 229           | 67      | 296    | 219          | 44      | 263    |
| Total disembarking  | 1,121         | 968     | 2,089  | 224          | 44      | 268    |
| Embarking:          |               |         |        |              |         |        |
| For Atlantic ports  | 1,253         | 532     | 1,785  | 7            | 3       | 10     |
| For Pacific ports   | 175           | 57      | 232    | 48           | 22      | 70     |
| Total embarking     | 1,428         | 589     | 2,017  | 55           | 25      | 80     |



|                                 | At Cristobal. |         |        | At Balboa.   |         |        |
|---------------------------------|---------------|---------|--------|--------------|---------|--------|
|                                 | First class.  | Others. | Total. | First class. | Others. | Total. |
| Remaining on board vessels:     |               |         |        |              |         |        |
| From Atlantic to Pacific ports  | 490           | 1,090   | 1,580  | 570          | 2,105   | 2,675  |
| From Pacific to Atlantic ports  | 1,036         | 1,103   | 2,139  | 1,309        | 1,352   | 2,661  |
| From Atlantic to Atlantic ports | 297           | 90      | 387    |              |         |        |
| From Pacific to Pacific ports   |               |         |        | 2            |         | 2      |
| Total remaining on board        | 1,823         | 2,283   | 4,106  | 1,881        | 3,457   | 5,338  |
| Total passengers arriving       | 2,944         | 3,251   | 6,195  | 2,105        | 3,501   | 5,606  |
| Total passengers departing      | 3,251         | 2,872   | 6,123  | 1,936        | 3,482   | 5,418  |

## COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of April, 1922:

|                           | Ice.     | Groceries. | Cold storage. | Laundry.   | Miscellaneous. | Total.     |
|---------------------------|----------|------------|---------------|------------|----------------|------------|
| Sales at Cristobal to—    |          |            |               |            |                |            |
| U. S. Government vessels. | \$172.00 | \$132.68   | \$2,411.35    |            | \$354.50       | \$2,970.53 |
| Panama Railroad vessels.  | 34.50    | 762.06     | 4,270.71      |            | 400.18         | 5,467.45   |
| Other commercial vessels. | 1,338.63 | 3,245.47   | 14,327.17     |            | 1,005.59       | 19,966.86  |
| Totals, April, 1922       | 1,545.13 | 4,140.21   | 21,009.23     |            | 1,710.27       | 28,404.84  |
| Totals, March, 1922       | 1,255.62 | 5,921.65   | 19,017.93     |            | 1,418.64       | 27,613.84  |
| Totals, April, 1921       | 3,395.20 | 5,812.02   | 34,038.52     | \$5,577.43 | 2,394.92       | 51,218.09  |
| Sales at Balboa to—       |          |            |               |            |                |            |
| U. S. Government vessels. | 193.50   | 587.85     | 5,637.68      | 13.36      | 78.10          | 6,510.49   |
| Other commercial vessels. | 462.83   | 2,113.00   | 9,385.77      | 1,000.37   | 716.60         | 13,678.57  |
| Totals, April, 1922       | 656.33   | 2,700.85   | 15,023.45     | 1,013.73   | 794.70         | 20,189.06  |
| Totals, March, 1922       | 691.51   | 5,397.63   | 11,486.67     | 16.14      | 2,030.83       | 19,622.78  |
| Totals, April, 1921       | 937.65   | 5,243.27   | 23,292.01     | 550.16     | 1,164.55       | 31,187.64  |

## LOCK OPERATION.

The following tabulations give the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, for the month of April, 1922, as compared with the preceding month, and the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                             | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|-----------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                             | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun                       | 105         | 117    | 222    | 8              | 5      | 13     | 235          |
| Pedro Miguel                | 107         | 121    | 228    | 18             | 15     | 33     | 261          |
| Miraflores                  | 102         | 115    | 217    | 17             | 14     | 31     | 248          |
| Total lockages, April, 1922 | 314         | 353    | 667    | 43             | 34     | 77     | 744          |
| Total lockages, March, 1922 | 278         | 386    | 664    | 33             | 18     | 51     | 715          |
| Total lockages, April, 1921 | 325         | 351    | 676    | 39             | 45     | 84     | 760          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                            | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|----------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                            | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun                      | 113         | 129    | 242    | 14             | 10     | 24     | 266          |
| Pedro Miguel               | 111         | 123    | 234    | 32             | 34     | 66     | 300          |
| Miraflores                 | 111         | 123    | 234    | 38             | 31     | 69     | 303          |
| Total vessels, April, 1922 | 335         | 375    | 710    | 84             | 75     | 159    | 869          |
| Total vessels, March, 1922 | 293         | 420    | 713    | 70             | 67     | 137    | 850          |
| Total vessels, April, 1921 | 339         | 373    | 712    | 110            | 109    | 219    | 931          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                            | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------|--------|---------------|-------------|
| Army and Navy vessels..... | 13     | 13            | 13          |
| Canal equipment.....       | 11     | 47            | 56          |
| Total noncommercial.....   | 24     | 60            | 69          |

The total consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                     | Gatun.             | Pedro Miguel.      | Miraflores.        |
|-------------------------------------|--------------------|--------------------|--------------------|
|                                     | <i>Cubic feet.</i> | <i>Cubic feet.</i> | <i>Cubic feet.</i> |
| Lockages.....                       | 893,900,000        | 878,600,000        | 738,920,000        |
| Leakage.....                        | 20,000,000         | 17,700,000         | 20,000,000         |
| Maintenance.....                    |                    | 19,000,000         | 10,700,000         |
| Total consumption, April, 1922..... | 913,900,000        | 915,390,000        | 769,620,000        |
| Total consumption, March, 1922..... | 907,670,000        | 831,680,000        | 730,408,000        |
| Total consumption, April, 1921..... | 911,560,000        | 837,920,000        | 822,850,000        |

## METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of April, 1922, are shown in comparative form.

| Rainfall.                                         | April,<br>1922. | April,<br>1921. | April—Years of record. |                 |                 |
|---------------------------------------------------|-----------------|-----------------|------------------------|-----------------|-----------------|
|                                                   |                 |                 | Maximum.               | Minimum.        | Mean.           |
|                                                   | <i>Inches.</i>  | <i>Inches.</i>  | <i>Inches.</i>         | <i>Inches.</i>  | <i>Inches.</i>  |
| Total rainfall for month:                         |                 |                 |                        |                 |                 |
| Pacific Section.....                              | 0.41            | 1.36            | 7.70                   | 0.06            | 3.52            |
| Central Section.....                              | 0.47            | 1.82            | 9.12                   | .27             | 3.75            |
| Atlantic Section.....                             | 2.64            | 6.00            | 12.83                  | 1.18            | 5.54            |
| Maximum record on any one day.....                | 1.32            | 4.93            | 10.86                  |                 |                 |
| Over Gatun Lake watershed.....                    | 1.15            | 3.25            | 12.00                  | .87             | 4.33            |
| Over Chagres River watershed above Alhajuela..... | 2.02            | 3.65            | 16.06                  | .51             | 4.43            |
| Maximum recorded for month at any one point.....  | 4.13            | 7.43            | 21.73                  |                 |                 |
| Minimum recorded for month at any one point.....  |                 | 0.43            |                        |                 |                 |
| <i>Hydrography.</i>                               |                 |                 |                        |                 |                 |
|                                                   | <i>C. f. s.</i> | <i>C. f. s.</i> | <i>C. f. s.</i>        | <i>C. f. s.</i> | <i>C. f. s.</i> |
| Discharge of Chagres River at Alhajuela.....      | 834             | 540             | 3,140                  | 304             | 1,041           |
| Maximum momentary discharge for month.....        | 5,300           | 1,300           | 170,000                |                 |                 |
| Minimum momentary discharge for month.....        | 555             | 364             |                        |                 |                 |
| Gatun Lake watershed total yield.....             | 1,178           | 1,105           | 6,263                  | 328             | 1,960           |
| Gatun Lake watershed net yield.....               | 210             | 244             | 5,400                  | —706            | 1,219           |
| Draft on Gatun Lake for lockages and power.....   | 2,069           | 2,282           | 2,282                  | 1,019           | 1,650           |

<sup>1</sup> Maximum rainfall recorded for 24 hours. Occurred December 28–29, 1909.

<sup>2</sup> Maximum momentary discharge of record. Occurred December 26, 1909.

<sup>3</sup> Not including April, 1914.

## SEISMOLOGY.

No earthquakes were recorded on the Balboa Heights seismographs during the month.

## ELECTRICAL DIVISION.

The combined gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

|                                                                                | April, 1922.  | March, 1922.  | April, 1921.  |
|--------------------------------------------------------------------------------|---------------|---------------|---------------|
| Gross output, K. W. H.:                                                        |               |               |               |
| Gatun hydroelectric station.....                                               | 4,471,000     | 4,728,100     | 5,660,900     |
| Miraflores steam plant.....                                                    | 250           | 400           | 39,290        |
| Combined gross output.....                                                     | 4,471,250     | 4,728,500     | 5,700,190     |
| Power distributed to consumers..... KWH.                                       | 3,743,444     | 3,983,218     | 4,776,562     |
| Loss of power in plant auxiliaries, transmission, and transformation..... KWH. | 727,806       | 745,282       | 923,628       |
| Per cent of loss of power to gross output.....                                 | 16.27         | 15.76         | 16.20         |
| Water consumption..... cubic feet.                                             | 3,589,299,000 | 3,687,402,000 | 4,239,320,000 |
| Oil consumption..... barrels.                                                  | 2,009         | 1,911         | 2,135         |

Miscellaneous electrical repairs and installations of electrical equipment were made on 20 vessels during the month. There were 257 work orders issued for work to be performed by the Electrical Division during the month, as compared with 274 for March, 1922.

#### SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month, miscellaneous repairs were made on 37 vessels at Cristobal and 45 vessels at Balboa. Of these vessels, 3 were placed in dry dock at Cristobal and 8 at Balboa. The more important repair work was as follows: The Shipping Board vessel *Eastern Queen* was placed in dry dock on account of the shaft having come badly down through excessive wear of the *lignum-vite* in the stern bushing as a result of which the stern tube shaft was broken through the coupling flange. A new stern tube shaft was installed, and necessary repairs made to the stern bushing.

The U. S. S. *Birmingham* was placed in dry dock on account of a broken port propeller shaft. The shaft and propeller were removed and the stern tube shaft (which, in this ship, is additional to the propeller shaft) was removed for examination and the stern tube blanked so that the vessel may be available for service under one propeller pending the receipt of a new shaft for installation.

The steamship *Wolsun* was docked and repairs to her bow and bottom made in wake of the damages received in a collision and subsequent grounding on the Cristobal breakwater.

The steamship *W. J. Hanna* was dry-docked on account of a broken intermediate shaft and a new intermediate shaft and tail shaft installed.

Substantial progress was made on the conversion of the Panama Canal tug *Favorite* into an oil burner.

The output of the foundry in patterns and castings for the month of April, 1922, as compared with the preceding month, was as follows:

|                 | April, 1922. |           |         | March, 1922. |           |         |
|-----------------|--------------|-----------|---------|--------------|-----------|---------|
|                 | Patterns.    | Castings. | Pounds. | Patterns.    | Castings. | Pounds. |
| Iron.....       | 7            | 144       | 13,383  | 2            | 135       | 7,958   |
| Steel.....      | 3            | 30        | 27,625  | 3            | 51        | 21,716  |
| Nonferrous..... | 4            | 86        | 1,803   | 2            | 129       | 2,549   |

The following is a statement of all job and blanket orders issued and completed during the month:

|                     | Uncompleted,<br>April 1. | Authorized<br>in April. | Completed<br>in April. | Uncompleted,<br>April 30. |
|---------------------|--------------------------|-------------------------|------------------------|---------------------------|
| Job orders.....     | 228                      | 387                     | 360                    | 255                       |
| Blanket orders..... | 360                      | 2                       | 1                      | 361                       |

#### DREDGING DIVISION.

Cucaracha and Barge Repair slides have shown no movement during the month. At the West Culebra slide a general movement of material has existed, showing a movement of 7 feet for the month, between stations 1775-00 and 1780-00 W; and a movement of about 3 feet between 1780-00 and 1795-00 W. This change has been determined by a resurvey of the base line along this slide. There was no interference with Canal traffic during the month.

The total excavation for April, 1922, was 253,400 cubic feet of earth and rock, as follows:

| Cubic<br>yards. | Classified as— |        | Character<br>of work. | Stations.                                                                   | Equipment        |
|-----------------|----------------|--------|-----------------------|-----------------------------------------------------------------------------|------------------|
|                 | Earth.         | Rock.  |                       |                                                                             |                  |
| 65,500          | 30,800         | 34,700 | Maintenance.....      | <i>Gaillard Cut, East Culebra.</i><br>1781-00 to 1802-25 E.....             | <i>Gamboa.</i>   |
| 45,500          | 24,600         | 20,900 | Maintenance.....      | <i>Gaillard Cut, West Barge Repair.</i><br>1744-75 to 1732-25 E. and W..... | <i>Gamboa.</i>   |
| 27,600          | 7,600          | 20,000 | Maintenance.....      | <i>Miraflores P. I., Pacific Entrance.</i><br>2083-50 to 2095-00 W.....     | <i>Paraiso.</i>  |
| 4,350           |                | 4,350  | Maintenance.....      | <i>Pacific Entrance.</i><br>2180-00 to 2200-00 W.....                       | <i>Cascadas.</i> |
| 4,650           |                | 4,650  | Construction.....     | 2180-00 to 2200-00 W.....                                                   | <i>Cascadas.</i> |
| 105,800         | 105,800        |        | Maintenance.....      | 2314-00 to 2334-00 E.....                                                   | <i>No. 84.</i>   |
| 253,400         | 168,800        | 84,600 |                       |                                                                             |                  |

The material excavated at the various stations was disposed of as follows:

|                                                      | Cubic<br>yards. |
|------------------------------------------------------|-----------------|
| Dumped north of Gamboa.....                          | 111,000         |
| Dumped on flats west of Canal, Pacific entrance..... | 10,800          |
| Dumped on flats east of Canal, Pacific entrance..... | 95,000          |
| Dumped at sea, Pacific entrance.....                 | 36,600          |
| Total.....                                           | 253,400         |

#### MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form:

|                                    | April,<br>1922. | March,<br>1922. | April,<br>1921. |
|------------------------------------|-----------------|-----------------|-----------------|
|                                    | <i>Gallons.</i> | <i>Gallons.</i> | <i>Gallons.</i> |
| Pumping stations.....              | 658,810,000     | 686,383,250     | 783,872,250     |
| Filtration plants.....             | 380,175,000     | 402,585,000     | 479,176,000     |
| Water consumed by Panama City..... | 73,703,000      | 82,952,000      | 97,213,000      |
| Water consumed by Colon.....       | 58,159,750      | 58,020,500      | 60,558,750      |
| Sales of water to vessels.....     | 10,616,628      | 9,470,092       | 10,983,210      |

Construction work, as itemized below, was under progress during the month, with completion on March 31 and April 30, as shown:

|                                                                   | Per cent completed. |           |
|-------------------------------------------------------------------|---------------------|-----------|
|                                                                   | March 31.           | April 30. |
| Fill, France Field.....                                           | 99.5                | 99.5      |
| Sea wall and dry fill, Coco Solo.....                             | 90                  | 100       |
| Extension of roads, new Santo Tomas Hospital.....                 | 61                  | 61        |
| Foundation of statue of Balboa.....                               | 79                  | 79        |
| Extension of sea wall, new Santo Tomas Hospital.....              | 99                  | 99        |
| Installation of electric duct line, new Santo Tomas Hospital..... | 65                  | 65        |
| Construction of 20-inch concrete drain pipe line, Colon.....      |                     | 50        |
| Construction of shed for housing division equipment.....          |                     | 25        |
| Construction of sea wall along south side of Strangers' Club..... |                     | 75        |
| Installation of 10-inch high pressure water line to Tivoli.....   |                     | 30        |

\* Work discontinued at the request of the Panama Government.

#### OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                          | As of April 30, 1922. |        |           | Total occupants. |                 |                 |
|--------------------------|-----------------------|--------|-----------|------------------|-----------------|-----------------|
|                          | Men.                  | Women. | Children. | April,<br>1922.  | March,<br>1922. | April,<br>1921. |
| Americans.....           | 2,347                 | 1,911  | 2,089     | 6,347            | 6,527           | 8,033           |
| Europeans.....           | 102                   | 41     | 91        | 234              | 236             | 260             |
| West Indians.....        | 4,100                 | 2,550  | 5,661     | 12,311           | 12,120          | 11,814          |
| Totals, April, 1922..... | 6,549                 | 4,502  | 7,841     | 18,892           |                 |                 |
| Totals, March, 1922..... | 6,510                 | 4,487  | 7,836     |                  | 18,883          |                 |
| Totals, April, 1921..... | 8,148                 | 4,561  | 7,338     |                  |                 | 20,107          |

#### WORKING FORCE.

The following tabulation shows the number of gold and silver employees as of April 19, 1922, by departments, together with a comparison of the working force for the preceding month and that of April, 1921:



|                                      | Employees as of<br>April 19, 1922. |         |        | Total employees. |                 |
|--------------------------------------|------------------------------------|---------|--------|------------------|-----------------|
|                                      | Gold.                              | Silver. | Total. | March,<br>1922.  | April,<br>1921. |
| Operation and Maintenance:           |                                    |         |        |                  |                 |
| Office.....                          | 29                                 | 54      | 83     | 84               | 80              |
| Electrical.....                      | 147                                | 163     | 310    | 311              | 417             |
| Municipal Engineering.....           | 71                                 | 500     | 571    | 600              | 885             |
| Lock Operation.....                  | 169                                | 590     | 759    | 849              | 911             |
| Dredging.....                        | 134                                | 594     | 728    | 757              | 938             |
| Mechanical.....                      | 331                                | 564     | 895    | 838              | 1,968           |
| Marine.....                          | 153                                | 391     | 544    | 511              | 684             |
| Fortifications.....                  | 44                                 | 215     | 259    | 341              | 326             |
| Totals.....                          | 1,078                              | 3,071   | 4,149  | 4,291            | 6,209           |
| Supply Department:                   |                                    |         |        |                  |                 |
| Transportation.....                  | 30                                 | 143     | 173    | 173              | 2,095           |
| Quartermaster.....                   | 134                                | 791     | 925    | 929              | 413             |
| Subsistence.....                     | 15                                 | 195     | 210    | 226              | 1,655           |
| Commissary.....                      | 173                                | 760     | 933    | 950              | 297             |
| Cattle Industry—Plantations.....     | 9                                  | 395     | 404    | 356              | 105             |
| Hotel Washington.....                | 8                                  | 83      | 91     | 94               |                 |
| Totals.....                          | 369                                | 2,367   | 2,736  | 2,728            | 4,565           |
| Accounting Department.....           | 177                                | 7       | 184    | 181              | 240             |
| Health Department.....               | 214                                | 731     | 945    | 961              | 1,105           |
| Executive Department.....            | 497                                | 239     | 736    | 739              | 826             |
| Totals.....                          | 888                                | 977     | 1,865  | 1,881            | 2,171           |
| Panama Railroad:                     |                                    |         |        |                  |                 |
| Superintendent.....                  | 47                                 | 219     | 266    | 297              | 499             |
| Transportation.....                  | 67                                 | 97      | 164    | 175              | 250             |
| Receiving and Forwarding Agency..... | 63                                 | 678     | 741    | 611              | 971             |
| Coaling stations.....                | 86                                 | 531     | 617    | 535              | 1,405           |
| Totals.....                          | 263                                | 1,525   | 1,788  | 1,668            | 3,125           |
| Grand totals, April, 1922.....       | 2,598                              | 7,940   | 10,538 |                  |                 |
| Grand totals, March, 1922.....       | 2,628                              | 7,940   |        | 10,568           |                 |
| Grand totals, April, 1921.....       | 3,731                              | 12,339  |        |                  | 16,070          |

\* Includes 422 employees of the former Building Division.

## SCHOOLS.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone, for the month of April, 1922:

|                                      | White.  | Colored. | Total. |
|--------------------------------------|---------|----------|--------|
| Gross enrollment.....                | 2,052   | 1,835    | 3,887  |
| Net enrollment.....                  | 1,882   | 1,787    | 3,669  |
| Average daily attendance.....        | 1,514.1 | 1,326.9  | 2,841  |
| Pupils neither absent nor tardy..... | 1,011   | 703      | 1,714  |
| Number of cases of tardiness.....    | 179     | 48       | 227    |
| Number of teachers.....              | 77      | 32       | 109    |

## RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of the material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, and cash sales from stock, are shown below in comparative form.

|                                                                         | April,<br>1922. | March,<br>1922. | April,<br>1921. |
|-------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| Material received on United States requisitions, chargeable as follows: |                 |                 |                 |
| Operation and Maintenance.....                                          | \$97,145.92     | \$92,935.36     | \$317,038.37    |
| Construction and equipment.....                                         |                 |                 | 6,877.01        |
| Miscellaneous.....                                                      | 1,611.94        | 1,702.52        | 22,809.78       |
| Totals.....                                                             | 98,757.86       | 94,637.88       | 346,725.16      |

|                                          | April,<br>1922. | March,<br>1922. | April,<br>1921. |
|------------------------------------------|-----------------|-----------------|-----------------|
| Cash sales on the Isthmus:               |                 |                 |                 |
| Stock.....                               | 31,646.39       | 30,056.34       | 35,081.05       |
| Fuel oil (including sales to ships)..... | 25.40           | 67.62           | 840.40          |
| Scrap.....                               | 521.37          | 902.88          | 368.66          |
| Obsolete and second-hand material.....   | 2,391.96        | 4,156.89        | 3,045.37        |
| Totals.....                              | 34,585.12       | 35,183.73       | 39,335.48       |
| Sales to steamships from storehouses:    |                 |                 |                 |
| Miscellaneous stock items.....           | 14,564.20       | 9,240.67        | 12,893.04       |
| Fuel oil.....                            |                 | 67.62           | 840.40          |
| Totals.....                              | 14,564.20       | 9,308.29        | 13,733.44       |

Respectfully,

JAY J. MORROW,

Governor.

**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 18, 1922.

The U. S. S. *Nevada* reports: "White deck house awash, 2 ventilators, at latitude 15° 28' N., Longitude 98° 9' W., noon, May 14, 7th meridian civil time."

JAY J. MORROW,

Governor.

**Ships at Canal Repair Shops.**

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended May 17:

Steamships *Oanfa*, repair 1 piece of auxiliary steam line; *West Cherow*, furnish services of diver to pack around tail shaft to make necessary repairs to stern gland; launch *Petrolito*, examine engine; manufacture 4 valve stems; ream guide holes; tighten shaft on magneto.

## PREVIOUSLY REPORTED.

Dredge *No. 86*, renew main deck house sills and deck; renew upper fender plank shear; renew 70 feet of upper deck sills and deck; renew ice box; build new gantry frames; change round spud wells to square; remove and replace deck machinery in wake of repairs; install new ladder brake wheel; redeck and calk galley floor; scale deck plates in way of replacement of wood decks; tug *Favorite*, convert from coal burner to oil burner.

The following vessels were at the Cristobal shops for repairs during the week ended May 22:

Motor schooner *Alsace*, repair gasoline engines and weld new end on davit; steamship *Advance*, remetal and bore blower engine crank-pin brasses; repair casting for lead to winch; repair after dynamo, fresh water pump and chest cover for sanitary pump; overhaul ammonia compressor suction valve, etc.; tug *Porto Bello*, repair steering engine; remove H. P. piston rod and renew springs to packing; regrind piston rod and line up H. P. slide; make 1 new set of metallic packing; repair valve cages and install new H. P. valve, etc.; steamship *Manavi*, make 3 canvas slings as directed; tug *Engineer*, remove old tank from bilges in after hold; overhaul boilers; renew floor angles, floor plates, and ash guards in fireroom; remove old water tanks in fore hold and install new tank; clean, test, and repair main condenser; overhaul and install air pump; overhaul anchor windlass; repair discharge line from ejector; repair rudder chain; repair main thrust, fresh water pump and make general repairs to main engines, etc.; steamship *Cristobal*, manufacture crank-pin wrench; repair chain falls, repair galley stove, etc., *Conde de Churruaca*, *Ceres*, *Orita*, *Solana*, U. S. M. P. *Graham*, schooner *Arabia*, and tug *Coco Solo*, minor repairs.

## Distribution of Cargo Passing Through the Panama Canal from the Pacific to the Atlantic, April, 1922.

| From —                                   | NORTH AMERICA.             |                            |             |                          |                          |                          |              |                               |                          |                | EUROPE.  |          |         |          |          |         |         |                      |                |                                 | Grand totals. | Per cent of total cargo. |
|------------------------------------------|----------------------------|----------------------------|-------------|--------------------------|--------------------------|--------------------------|--------------|-------------------------------|--------------------------|----------------|----------|----------|---------|----------|----------|---------|---------|----------------------|----------------|---------------------------------|---------------|--------------------------|
|                                          | UNITED STATES.             |                            |             |                          |                          | NORTH AMERICA.           |              |                               |                          |                | EUROPE.  |          |         |          |          |         |         |                      |                |                                 |               |                          |
|                                          | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports. | Total, United<br>States. | East coast of<br>Canada. | East coast of<br>Mexico. | West Indies. | Cristobal, C. Z. <sup>1</sup> | Total, North<br>America. | British Isles. | Belgium. | Denmark. | France. | Germany. | Holland. | Norway. | Sweden. | Europe. <sup>2</sup> | Total, Europe. | East coast of<br>South America. |               |                          |
| <b>SOUTH AMERICA:</b>                    |                            |                            |             |                          |                          |                          |              |                               |                          |                |          |          |         |          |          |         |         |                      |                |                                 |               |                          |
| Chile.....                               | 26,927                     | 53,500                     | 2,675       | 83,102                   |                          |                          | 181          | 55                            | 83,338                   | 19,754         | 4,005    | 1,028    | 5,098   | 4,500    |          |         |         | 8,131                | 42,516         |                                 |               | 125,854                  |
| Peru.....                                | 323                        |                            |             | 323                      |                          |                          |              | 4,360                         | 4,683                    | 8,705          | 1,029    |          |         | 3        |          |         |         | 1,249                | 11,586         |                                 |               | 16,269                   |
| Colombia.....                            | 699                        |                            |             | 699                      |                          |                          |              | 817                           | 1,516                    |                |          |          | 5       | 40       |          |         |         | 345                  | 390            | 7                               |               | 1,523                    |
| Ecuador.....                             | 3,336                      |                            |             | 3,336                    |                          |                          |              | 2,785                         | 6,121                    |                |          |          |         |          |          |         |         | 1,587                |                |                                 |               | 6,511                    |
| West coast of South America <sup>3</sup> |                            |                            |             |                          |                          |                          |              | 17                            | 17                       |                |          |          |         |          |          |         |         |                      |                |                                 |               | 1,604                    |
| Total, South America.....                | 31,285                     | 53,500                     | 2,675       | 87,460                   |                          |                          | 181          | 8,024                         | 95,675                   | 28,459         | 5,034    | 1,033    | 5,141   | 4,500    |          |         |         | 11,312               | 56,079         | 7                               |               | 151,761                  |
| <b>NORTH AMERICA:</b>                    |                            |                            |             |                          |                          |                          |              |                               |                          |                |          |          |         |          |          |         |         |                      |                |                                 |               |                          |
| West coast of United States.....         | 107,720                    | 3,230                      | 2,237       | 113,187                  |                          |                          |              | 416                           | 119,993                  | 55,487         | 1,180    | 1,250    | 531     | 4,778    | 3        |         | 784     | 20,790               | 84,803         | 2,286                           | 4,581         | 211,663                  |
| West coast of Canada.....                | 4,717                      |                            |             | 4,717                    |                          |                          |              |                               | 4,717                    | 4,773          | 270      |          | 341     | 215      |          |         |         | 811                  | 6,410          |                                 |               | 11,127                   |
| West coast of Central America.....       | 19                         |                            |             | 19                       |                          |                          | 98           | 9,885                         | 10,002                   |                |          |          | 345     |          |          |         | 930     | 930                  | 2,205          |                                 |               | 12,207                   |
| Total, North America.....                | 112,456                    | 3,230                      | 2,237       | 117,923                  |                          |                          |              | 10,301                        | 134,712                  | 60,260         | 1,450    | 1,250    | 1,217   | 4,993    | 3        | 930     | 1,714   | 21,601               | 93,418         | 2,286                           | 1,581         | 234,997                  |
| <b>ASIA:</b>                             |                            |                            |             |                          |                          |                          |              |                               |                          |                |          |          |         |          |          |         |         |                      |                |                                 |               |                          |
| China.....                               | 4,665                      |                            |             | 4,665                    |                          |                          |              |                               | 4,665                    |                |          |          |         |          |          |         |         |                      |                |                                 |               | 4,665                    |
| Japan.....                               | 1,441                      |                            |             | 1,441                    |                          |                          |              | 64                            | 1,505                    |                |          |          |         |          |          |         |         |                      |                |                                 |               | 1,565                    |
| Philippines.....                         | 22,927                     |                            |             | 22,927                   |                          |                          |              |                               | 22,927                   |                |          |          |         |          |          |         |         |                      |                |                                 |               | 22,927                   |
| Indo-China.....                          | 1,035                      |                            |             | 1,035                    |                          |                          |              |                               | 1,035                    |                |          |          |         |          |          |         |         |                      |                |                                 |               | 1,035                    |
| Far East <sup>3</sup> .....              | 3,742                      |                            |             | 3,742                    |                          |                          |              |                               | 3,742                    |                |          |          |         |          |          |         |         |                      |                |                                 |               | 3,742                    |
| Total, Asia.....                         | 33,810                     |                            |             | 33,810                   |                          |                          |              | 64                            | 33,874                   |                |          |          |         |          |          |         |         |                      |                |                                 |               | 33,874                   |
| <b>AUSTRALASIA:</b>                      |                            |                            |             |                          |                          |                          |              |                               |                          |                |          |          |         |          |          |         |         |                      |                |                                 |               |                          |
| Australia.....                           | 11,647                     |                            |             | 11,647                   |                          |                          |              |                               | 11,763                   | 13,996         |          |          |         | 1,500    |          |         |         |                      | 13,996         |                                 |               | 25,759                   |
| New Zealand.....                         | 2,491                      |                            |             | 2,491                    |                          |                          |              |                               | 2,491                    | 28,281         |          |          |         |          |          |         |         |                      | 29,781         |                                 |               | 32,272                   |
| Australasia <sup>3</sup> .....           |                            |                            |             |                          |                          |                          |              |                               | 4,723                    | 4,723          |          |          |         |          |          |         |         |                      | 4,723          |                                 |               | 4,723                    |
| Total, Australasia.....                  | 14,138                     |                            |             | 14,138                   |                          |                          |              |                               | 14,254                   | 47,000         |          |          |         | 1,500    |          |         |         |                      | 48,500         |                                 |               | 62,754                   |
| Hawaii.....                              | 53                         |                            |             | 53                       |                          |                          |              |                               | 53                       |                |          |          | 175     |          |          |         |         |                      | 175            |                                 |               | 228                      |
| Grand totals.....                        | 191,742                    | 56,730                     | 4,912       | 253,384                  | 116                      | 1,639                    | 5,030        | 18,399                        | 278,568                  | 135,719        | 7,081    | 1,250    | 2,425   | 11,634   | 4,503    | 930     | 1,714   | 32,913               | 198,172        | 2,293                           | 4,581         | 483,614                  |
| Per cent of total cargo:                 |                            |                            |             |                          |                          |                          |              |                               |                          |                |          |          |         |          |          |         |         |                      |                |                                 |               |                          |
| April, 1922.....                         | 39.65                      | 11.73                      | 1.02        | 52.40                    | 0.02                     | 0.34                     | 1.04         | 3.86                          | 57.60                    | 28.06          | 1.46     | 0.26     | 0.51    | 2.41     | 0.93     | 0.19    | 0.35    | 6.81                 | 40.98          | 0.47                            | 0.95          | 100.0                    |
| March, 1922.....                         | 47.29                      | 0.58                       | 3.55        | 51.42                    | 0.15                     |                          | 0.26         | 3.11                          | 54.94                    | 29.81          | 1.01     | 0.35     | 3.58    | 5.50     | 0.02     |         |         | 4.63                 | 41.90          | 0.16                            |               |                          |
| April, 1921.....                         | 30.60                      | 12.10                      | 0.40        | 43.10                    |                          | 0.20                     |              | 2.20                          | 45.50                    | 31.30          | 0.20     | 0.60     | 6.70    | 3.00     | 4.50     |         |         | 5.10                 | 54.50          |                                 |               |                          |

<sup>1</sup> Figures represent tons of 2,240 pounds.<sup>2</sup> Includes both local and transfer cargo.<sup>3</sup> General cargo not routed so as to allow a more definite segregation.

(Continued on page 534.)

**MOVEMENTS OF OCEAN VESSELS.**  
*Week ending at midnight, May 20, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                      | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                                | Length. |      | Beam. | Salt water draft. | From—         | For—           | Cargo.           |        | Panama Canal tonnage. |       |
|----------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|--------------------------------------|---------|------|-------|-------------------|---------------|----------------|------------------|--------|-----------------------|-------|
|                            | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                      |         |      |       |                   |               |                | Nature.          | Tons.  | Gross.                | Net.  |
| Cordelia                   | 13               | 12 55 | 14             | 6 15  | 14                 | 14 09 | 14               | 15 14 | British.     | G. T. Bowring & Co.                  | 420.0   | 54.0 | 28.8  | 28.8              | New Orleans.  | Shanghai.      | Kerosene.        | 8,400  | 6,827                 | 5,013 |
| W. L. Connelly             | 14               | 7 05  | 14             | 7 20  | 14                 | 14 46 | 14               | 16 16 | American.    | Sinclair Navigation Co.              | 304.0   | 44.2 | 24.8  | 24.8              | Tampico.      | Corinto.       | Crude oil.       | 5,400  | 3,214                 | 2,326 |
| Wiegand                    | 14               | 11 12 | 14             | 11 45 | 14                 | 18 46 | 15               | 12 45 | German.      | Roland Line.                         | 393.0   | 51.0 | 19.6  | 19.6              | Hamburg.      | Corral.        | General.         | 2,540  | 6,373                 | 4,029 |
| Blue Triangle              | 14               | 11 50 | 14             | 12 23 | 14                 | 19 28 | 14               | 20 45 | American.    | N. Atl. and West. S. S. Co. (S. B.). | 390.0   | 54.2 | 20.6  | 20.6              | Boston.       | Seattle.       | General.         | 2,129  | 6,209                 | 4,317 |
| Cayo 2220                  | 9                | 14    | 14             | 9 22  | 14                 | 9 22  | 14               | 9 22  | Panamanian.  | J. Jimenez.                          | 457.0   | 58.0 | 24.6  | 24.6              | Cristobal.    | Gatun Lake.    | Unknown.         | 3,890  | 9,139                 | 6,883 |
| Rimutaka                   | 14               | 16 01 | 15             | 6 25  | 15                 | 13 06 | 16               | 12 30 | British.     | New Zealand Shipping Co.             | 395.5   | 55.0 | 27.10 | 27.10             | London.       | Wellington.    | General.         | 8,762  | 6,841                 | 4,758 |
| Wytheville.                | 14               | 13 39 | 15             | 7 12  | 15                 | 15 07 | 15               | 16 15 | American.    | Barber Line (S. B.).                 | 410.0   | 54.0 | 24.8  | 24.8              | New York.     | Yokohama.      | General, cotton. | 7,554  | 6,304                 | 4,752 |
| Byronsjerne                | 14               | 15 30 | 15             | 8 10  | 15                 | 16 10 | 16               | 2 40  | Norwegian.   | Olaf Orvig.                          | 378.0   | 44.0 | 23.1  | 23.1              | Cristobal.    | Kobe.          | General, steel.  | 239    | 4,552                 | 3,182 |
| Bjornson                   | 14               | 15 18 | 15             | 8 42  | 15                 | 15 57 | 15               | 23 15 | Chilean.     | South American Steamship Line.       | 454.0   | 56.2 | 31.0  | 31.0              | St. John.     | Valparaiso.    | General.         | 5,507  | 7,981                 | 5,518 |
| Huasco                     | 15               | 6 18  | 15             | 9 15  | 15                 | 16 58 | 15               | 18 20 | British.     | New Zealand Shipping Co.             | 454.0   | 56.2 | 31.0  | 31.0              | St. John.     | Auckland.      | General.         | 5,507  | 7,981                 | 5,518 |
| Oaruma.                    | 15               | 6 18  | 15             | 9 15  | 15                 | 16 58 | 15               | 18 20 | British.     | New Zealand Shipping Co.             | 454.0   | 56.2 | 31.0  | 31.0              | St. John.     | Auckland.      | General.         | 5,507  | 7,981                 | 5,518 |
| City of Can-<br>bridge.    | 15               | 4 36  | 15             | 11 00 | 15                 | 17 59 | 15               | 18 57 | British.     | Ellerman Lines.                      | 454.0   | 58.3 | 28.2  | 28.2              | New York.     | Shanghai.      | Machinery, etc.  | 9,550  | 9,183                 | 6,954 |
| Santa Rosa.                | 15               | 9 25  | 15             | 12 30 | 15                 | 19 50 | 15               | 21 25 | American.    | Grace Line.                          | 404.6   | 53.0 | 29.2  | 29.2              | Baltimore.    | San Francisco. | Tin plates, etc. | 8,644  | 6,744                 | 4,804 |
| Victoria Marc.             | 15               | 19 20 | 16             | 6 12  | 16                 | 14 30 | 16               | 15 45 | Japanese.    | Kabushiki Kisen Kaisha.              | 385.0   | 51.0 | 28.0  | 28.0              | New York.     | Kobe.          | General.         | 7,523  | 6,250                 | 4,700 |
| Liberator.                 | 16               | 6 04  | 16             | 7 05  | 16                 | 14 59 | 16               | 17 10 | American.    | Atl. Gulf and Pacific Co. (S. B.).   | 410.0   | 56.0 | 24.0  | 24.0              | Jacksonville. | Los Angeles.   | General.         | 6,850  | 8,199                 | 6,250 |
| K. R. Kings-<br>bury.      | 16               | 1 40  | 16             | 11 30 | 16                 | 19 14 | 16               | 20 45 | American.    | Standard Oil Co.                     | 440.0   | 58.0 | 29.7  | 29.7              | Amsterdam.    | Los Angeles.   | Cresote.         | 10,475 | 9,033                 | 5,938 |
| A. L. Kent.                | 16               | 18 00 | 17             | 6 10  | 17                 | 14 04 | 17               | 20 47 | American.    | Crowell & Thurlow.                   | 394.1   | 55.1 | 24.0  | 24.0              | Boston.       | Los Angeles.   | General.         | 6,116  | 7,047                 | 5,030 |
| Ansaldio San<br>Giorgio I. | 17               | 3 41  | 17             | 8 00  | 17                 | 14 51 | 18               | 19 20 | Italian.     | Italian Line.                        | 378.0   | 51.6 | 16.6  | 16.6              | Genoa.        | Valparaiso.    | General.         | 1,311  | 5,864                 | 4,266 |
| Manitara.                  | 13               | 16 20 | 17             | 11 00 | 17                 | 17 28 | 17               | 19 57 | Peruvian.    | Peruvian Line.                       | 367.3   | 46.0 | 18.6  | 18.6              | Cristobal.    | Ilo.           | General.         | 458    | 4,838                 | 2,959 |
| San Juan.                  | 13               | 15 45 | 17             | 13 09 | 17                 | 19 04 | 17               | 21 52 | American.    | Pacific Mail Steamship Co.           | 283.0   | 37.0 | 17.2  | 17.2              | Cristobal.    | Cristobal.     | General.         | 1,459  | 2,379                 | 1,593 |
| Cayo 2136.                 | 16               | 17    | 17             | 17    | 17                 | 17    | 17               | 17    | Panamanian.  | Andres Flores.                       | 30.0    | 4.6  | 3.0   | 3.0               | Cristobal.    | Gatun Lake.    | Unknown.         | 2      | 2                     | 2     |
| Lena Lucken-<br>bach.      | 18               | 1 00  | 18             | 8 45  | 18                 | 15 42 | 18               | 17 00 | American.    | Luckenbach Line.                     | 425.0   | 53.8 | 21.5  | 21.5              | New York.     | Los Angeles.   | General.         | 6,450  | 7,217                 | 5,295 |
| Alvarado                   | 18               | 11 58 | 19             | 6 12  | 19                 | 13 58 | 19               | 15 08 | British.     | McAndrews & Co.                      | 360.2   | 51.6 | 15.6  | 15.6              | New York.     | Guayaquil.     | General.         | 1,218  | 2,844                 | 1,748 |
| Santa Ana                  | 18               | 7 40  | 19             | 8 00  | 19                 | 15 30 | 21               | 1 35  | American.    | Pacific Mail Steamship Co.           | 303.0   | 43.0 | 24.2  | 24.2              | New York.     | San Francisco. | General.         | 2,000  | 5,776                 | 4,081 |
| Meordik                    | 18               | 15 09 | 19             | 10 25 | 19                 | 16 49 | 19               | 18 05 | Dutch.       | Holland-American Line.               | 472.8   | 61.0 | 20.6  | 20.6              | Rotterdam.    | Seattle.       | General.         | 3,670  | 9,165                 | 6,911 |
| Montgomery<br>City.        | 16               | 4 20  | 19             | 12 50 | 19                 | 20 43 | 19               | 22 12 | American.    | United States Steel Products Co.     | 424.2   | 56.2 | 26.8  | 26.8              | Boston.       | Seattle.       | Steel, general.  | 8,584  | 7,611                 | 5,450 |
| Deerfield                  | 19               | 13 52 | 20             | 6 20  | 20                 | 13 51 | 20               | 14 55 | American.    | Elder Steel Steamship Co.            | 434.3   | 57.7 | 28.6  | 28.6              | New York.     | Seattle.       | General.         | 7,944  | 7,893                 | 5,647 |
| Sargfoss                   | 19               | 12 56 | 20             | 7 35  | 20                 | 14 42 | 20               | 17 08 | American.    | Grace Line.                          | 299.0   | 45.0 | 21.3  | 21.3              | New York.     | Salaverry.     | ( <sup>a</sup> ) | 3,117  | 3,228                 | 2,010 |
| Sargfoss                   | 19               | 9 48  | 20             | 7 21  | 20                 | 14 44 | 20               | 16 00 | Norwegian.   | Thor Thoresen.                       | 254.8   | 39.0 | 13.7  | 13.7              | New York.     | Guayaquil.     | General.         | 256    | 2,064                 | 1,479 |
| Annan.                     | 19               | 18 48 | 20             | 8 15  | 20                 | 15 10 | 20               | 16 25 | Danish.      | East Asiatic Steamship Co.           | 398.2   | 53.6 | 22.0  | 22.0              | Antwerp.      | San Francisco. | General, coke.   | 4,850  | 7,067                 | 5,288 |
| Nelranan                   | 19               | 20 42 | 20             | 8 45  | 20                 | 16 06 | 20               | 17 08 | American.    | American-Hawaiian Line.              | 368.6   | 55.2 | 21.0  | 21.0              | New York.     | Seattle.       | General.         | 2,851  | 5,707                 | 3,646 |
| Essequibo.                 | 19               | 19 26 | 20             | 12 40 | 20                 | 18 50 | 20               | 20 35 | British.     | Pacific Steam Navigation Co.         | 450.0   | 57.0 | 25.6  | 25.6              | New York.     | Valparaiso.    | General.         | 2,985  | 9,099                 | 6,117 |
| Amc.                       | 20               | 12 48 | 20             | 12 55 | 20                 | 20 15 | 20               | 21 30 | American.    | Standard Transportation Co.          | 435.0   | 56.0 | 28.0  | 28.0              | Sabine.       | Shanghai.      | Oil.             | 9,000  | 7,405                 | 5,166 |

<sup>a</sup> 30,000 barrels.

<sup>a</sup> Motor ship.

<sup>a</sup> Pipe, structural steel, cement, and general.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                  | 15 | 12 | 15 | 8  | 06    | 15 | 15 | 50 | 16 | 12 | 04 |          | Dampsk. Akties Orient.        | 385.0 | 53.3 | 27.0 | Portland      | London      | General           | 8,073  | 6,080  | 4,619 |
|------------------|----|----|----|----|-------|----|----|----|----|----|----|----------|-------------------------------|-------|------|------|---------------|-------------|-------------------|--------|--------|-------|
| Kina Tecla       | 14 | 20 | 00 | 16 | 6.53  | 10 | 14 | 50 | 16 | 20 | 40 | American | Grace Line                    | 298.6 | 40.0 | 15.6 | Chimboe       | New York    | General           | 691    | 2,832  | 1,803 |
| Submarine S-30   | 15 | 16 | 30 | 16 | 6.57  | 10 | 14 | 45 |    |    |    | American | United States Navy            | 219.3 | 20.4 | 17.0 | San Pedro     | New London  | General           |        |        |       |
| Submarine S-33   | 15 | 16 | 30 | 16 | 6.58  | 16 | 14 | 49 |    |    |    | American | United States Navy            | 219.3 | 20.4 | 17.0 | San Pedro     | New London  | General           |        |        |       |
| Calagorite       | 16 | 3  | 30 | 16 | 7.52  | 16 | 15 | 26 | 16 | 18 | 05 | British  | Imperial Oil Co.              | 463.2 | 60.2 | 26.0 | Talara        | Hamburg     | Crude naphtha.    | 10,364 | 8,491  | 6,096 |
| Remera           | 15 | 17 | 20 | 16 | 12.23 | 16 | 18 | 50 | 16 | 19 | 35 | British  | New Zealand Steamship Co.     | 485.0 | 62.3 | 26.6 | Wellington    | London      | Cold storage, gen | 5,804  | 11,600 | 8,685 |
| Jufuku Maru      | 17 | 4  | 00 | 17 | 8.01  | 17 | 15 | 27 | 17 | 16 | 00 | Japanese | Kokusai Kisen Kaishiki Kaisha | 385.0 | 51.0 | 25.6 | Tacoma        | Norfolk     | Wheat             | 7,401  | 5,919  | 4,435 |
| Digna Maria      | 15 | 16 | 30 | 17 | 7.27  | 18 | 14 | 09 | 20 | 22 | 45 | Panama   | Santiago Sagel                | 34.9  | 12.2 | 4.5  | Panama        | Colon       | Ballast           |        | 17     | 14    |
| K. I. Luckenbach | 17 | 7  | 15 | 17 | 8.31  | 17 | 16 | 30 | 17 | 16 | 30 | American | Luckenbach Line               | 446.0 | 56.0 | 19.6 | San Francisco | Boston      | General           | 4,364  | 8,532  | 6,236 |
| Almagro          | 17 | 7  | 00 | 17 | 9.50  | 17 | 17 | 50 | 18 | 11 | 19 | British  | Pacific Steam Navigation Co.  | 303.4 | 43.0 | 14.0 | Guayaquil     | New York    | General           | 112    | 2,878  | 1,714 |
| Pyros            | 13 | 15 | 35 | 18 | 6.36  | 18 | 13 | 45 | 18 | 15 | 47 | American | United States Navy            | 459.8 | 61.1 | 22.6 | Honolulu      | Hampton Rds | Navy stores       | 1,000  | 8,426  | 5,270 |
| Scotia Maiden    | 16 | 20 | 00 | 18 | 7.48  | 18 | 17 | 20 |    |    |    | British  | Scotia Maiden Co.             | 220.0 | 34.3 | 13.6 | Papeete       | Marseilles  | Coconut oil       | 400    | 533    | 422   |
| Orta             | 18 | 8  | 00 | 18 | 9.12  | 18 | 15 | 56 | 19 | 12 | 20 | British  | Pacific Steam Navigation Co.  | 485.4 | 58.0 | 28.0 | Valparaiso    | Liverpool   | General           | 5,591  | 9,936  | 6,561 |
| Canadian         | 18 | 11 | 35 | 18 | 12.58 | 18 | 20 | 30 | 18 | 21 | 50 | British  | Canadian Government           | 400.0 | 52.4 | 17.0 | Melbourne     | Montreal    | General           | 1,600  | 5,956  | 4,100 |
| Victor           | 18 | 13 | 30 | 18 | 14.14 | 18 | 21 | 54 | 19 | 31 | 17 | Danish   | East Asiatic Steamship Co.    | 398.2 | 53.6 | 28.3 | Tacoma        | Copenhagen  | General           | 8,600  | 7,068  | 5,303 |
| Siam             | 18 | 16 | 30 | 19 | 6.39  | 19 | 13 | 52 | 19 | 13 | 52 | American | Sherman Steamship Co.         | 400.3 | 45.3 | 26.6 | Antofagasta   | Baltimore   | Copper nitrate    | 6,274  | 5,037  | 3,462 |
| Sherman          | 18 | 16 | 30 | 19 | 6.39  | 19 | 13 | 52 | 19 | 13 | 52 | American | Sherman Steamship Co.         | 400.3 | 45.3 | 26.6 | Antofagasta   | Baltimore   | Copper nitrate    | 6,274  | 5,037  | 3,462 |
| Duenas           | 18 | 19 | 30 | 19 | 7.40  | 19 | 14 | 35 | 19 | 16 | 35 | British  | Pacific Steam Navigation Co.  | 390.0 | 50.0 | 25.6 | Valparaiso    | London      | General           | 5,758  | 6,013  | 4,494 |
| Tmeric           | 19 | 1  | 30 | 19 | 8.45  | 19 | 16 | 10 | 20 | 21 | 40 | British  | Andrew Weir & Co.             | 399.0 | 52.0 | 14.0 | Callao        | New York    | Ballast           | 5,721  | 4,096  |       |
| Ceres            | 19 | 3  | 00 | 19 | 9.45  | 19 | 17 | 24 | 21 | 14 | 50 | Dutch    | Royal Netherlands W. I. Mail  | 348.0 | 48.0 | 17.5 | Bahia         | Hamburg     | General           | 2,856  | 4,243  | 3,123 |
| Alcyon           | 19 | 10 | 30 | 19 | 11.14 | 19 | 17 | 52 | 19 | 20 | 15 | French   | French Line                   | 320.2 | 40.7 | 18.2 | Santa Rosalia | Tampico     | Ballast           |        | 3,241  | 2,096 |
| Brush            | 19 | 14 | 35 | 19 | 15.13 | 19 | 23 | 25 | 20 | 18 | 55 | American | N. and All. Western S. S. Co. | 390.0 | 54.2 | 23.0 | Portland      | New York    | Lumber, wool      | 5,779  | 6,201  | 4,332 |
| Cape Romain      | 20 | 9  | 00 | 20 | 9.36  | 20 | 10 | 35 | 20 | 16 | 35 | American | United States Shipping Board  | 376.4 | 52.3 | 21.0 | Portland      | New York    | Lumber, general   | 4,800  | 5,143  | 3,568 |

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS.      |                      |                                 |                         | *DEPARTURES. |                       |                                |                           |
|-----------------|----------------------|---------------------------------|-------------------------|--------------|-----------------------|--------------------------------|---------------------------|
| Date.           | Vessel.              | Line.                           | From—                   | Date.        | Vessel.               | Line.                          | For—                      |
| May 14          | Abangarez            | United Fruit Co.                | New Orleans via Habana. | May 14       | John Worthington.     | Standard Oil Co.               | Texas City.               |
| May 14          | Venezuela            | Royal Netherlands W. I. Mail    | Port Limon.             | May 14       | Venezuela             | Royal Netherlands W. I. Mail.  | Puerto Colombia.          |
| May 15          | Parisma              | United Fruit Co.                | New Orleans.            | May 15       | Abangarez             | United Fruit Co.               | Bocas del Toro.           |
| May 15          | Conde de Churrua.    | Eastern Com. de Oriental        | Tampico.                | May 16       | Plarica <sup>6</sup>  | Max. Freundlich                | Colon.                    |
| May 16          | Ulua                 | United Fruit Co.                | New York via Habana.    | May 17       | Conde de Churrua      | Eastern Com. de Oriental       | Tampico.                  |
| May 16          | Plarica <sup>6</sup> | Max. Freundlich                 | Colon.                  | May 17       | Sixaola               | United Fruit Co.               | New York via Kingston     |
| May 16          | Cristobal            | Panama Railroad Steamship Line  | Norfolk.                | May 17       | Ulua                  | United Fruit Co.               | New York via wayports.    |
| May 16          | Advance              | Panama Railroad Steamship Line. | Puerto Colombia.        | May 18       | Parisma               | United Fruit Co.               | New Orleans via wayports. |
| May 17          | Norman Bridge.       | Pan-American Petroleum Co.      | Tampico.                | May 18       | Carrillo              | United Fruit Co.               | New York via wayports.    |
| May 17          | Sixaola.             | United Fruit Co.                | Colombian ports         | May 18       | Abangarez             | United Fruit Co.               | New Orleans.              |
| May 17          | Carrillo.            | United Fruit Co.                | New York via Kingston.  | May 18       | Norman Bridge.        | Pan-American Petroleum Co.     | Tampico.                  |
| May 18          | Abangarez            | United Fruit Co.                | Bocas del Toro.         | May 19       | Colon                 | Panama Railroad Steamship Line | New York via Haiti.       |
| May 18          | Solana               | Pacific Mail Steamship Co.      | Tampico.                | May 19       | San Bruno             | United Fruit Co.               | Boston.                   |
| May 19          | Solana               | Pacific Mail Steamship Co.      | Tampico.                | May 20       | Solana                | United Fruit Co.               | Puerto Lobos.             |
| May 20.         | San Bruno            | United Fruit Co.                | Boston via wayports.    | May 20.      | Solana                | Pacific Mail Steamship Co.     | Puerto Lobos.             |
| PORT OF BALBOA. |                      |                                 |                         |              |                       |                                |                           |
| April 24.       | Rosana <sup>4</sup>  | Alberto Fatt.                   | Punta Arenas.           | May 15.      | Rosana <sup>4</sup> . | Alberto Fatt.                  | Punta Arenas.             |
| May 16.         | Depere.              | United States Shipping Board    | San Francisco.          | May 17.      | Depere.               | United States Shipping Board.  | Valparaiso.               |

\* Other than ships passing through the Canal.

\* Commun. launch. \* United States Navy supply boat. \* Launch.

Distribution of Cargo Passing Through the Panama Canal from the Atlantic to the Pacific, April, 1922. — Continued from page 531.

| FROM—                            | SOUTH AMERICA. |           |          |        | NORTH AMERICA.                            |                       |                              |         |                                |               | ASIA.                 |        |        |                        | AUSTRALASIA. |              |            |                           | Grand totals. | Per cent of total cargo. |                    |         |
|----------------------------------|----------------|-----------|----------|--------|-------------------------------------------|-----------------------|------------------------------|---------|--------------------------------|---------------|-----------------------|--------|--------|------------------------|--------------|--------------|------------|---------------------------|---------------|--------------------------|--------------------|---------|
|                                  | Chile.         | Colombia. | Ecuador. | Peru.  | West coast of South America. <sup>2</sup> | Total, South America. | West coast of United States. | Canada. | West coast of Central America. | Balboa, C. Z. | Total, North America. | Japan. | China. | Far East. <sup>2</sup> | Total, Asia. | New Zealand. | Australia. | Australasia. <sup>2</sup> |               |                          | Total Australasia. | Hawaii. |
| UNITED STATES:                   |                |           |          |        |                                           |                       |                              |         |                                |               |                       |        |        |                        |              |              |            |                           |               |                          |                    |         |
| North Atlantic ports.....        | 11,931         | 1,370     | 84       | 5,986  | 6,127                                     | 25,498                | 127,527                      | 1,567   | 1,000                          | 130,091       | 46,107                | 24,900 | 23,737 | 94,746                 | 2,415        | 11,092       | 13,507     | 7,350                     | 271,204       | 48.2                     |                    |         |
| South Atlantic ports.....        | 19,527         |           |          |        | 19,527                                    | 4,530                 | 4,530                        | 3,114   | 4,530                          | 3,220         | 3,588                 | 54,113 | 8,304  | 1,311                  | 9,615        | 21           |            |                           | 28,349        | 5.0                      |                    |         |
| Gulf ports.....                  |                |           |          |        | 1,130                                     | 1,130                 | 14,901                       |         |                                | 14,901        | 22,123                | 24,404 | 7,580  |                        |              |              |            |                           | 79,780        | 14.2                     |                    |         |
| Total, United States.....        | 31,458         | 1,370     | 84       | 5,986  | 7,257                                     | 46,155                | 146,958                      | 1,567   | 1,000                          | 149,525       | 71,456                | 49,862 | 31,833 | 153,151                | 8,304        | 3,726        | 11,092     | 7,380                     | 379,333       | 67.4                     |                    |         |
| East coast of Mexico.....        | 19,600         |           |          |        |                                           | 19,600                | 439                          |         | 9,500                          | 9,500         | 2,943                 |        |        |                        |              |              |            |                           | 29,100        | 5.2                      |                    |         |
| West Indies.....                 |                |           |          |        |                                           |                       |                              |         | 2,504                          |               | 2,504                 |        |        |                        |              |              |            |                           | 6,434         | 1.2                      |                    |         |
| East coast of Canada.....        |                |           |          |        |                                           |                       |                              | 6,254   | 16                             |               | 6,270                 | 19,619 | 10,250 |                        | 29,869       |              |            |                           | 36,139        | 6.4                      |                    |         |
| Total, North America.....        | 51,058         | 2,658     | 324      | 5,986  | 9,820                                     | 69,246                | 147,397                      | 7,821   | 2,520                          | 10,500        | 168,238               | 91,075 | 60,112 | 31,833                 | 183,020      | 8,304        | 3,726      | 13,535                    | 25,685        | 7,380                    | 453,169            | 85.6    |
| EUROPE:                          |                |           |          |        |                                           |                       |                              |         |                                |               |                       |        |        |                        |              |              |            |                           |               |                          |                    |         |
| Belgium.....                     | 163            |           | 172      | 1,745  | 2,489                                     | 4,569                 | 10,685                       |         |                                |               | 10,685                |        |        |                        |              |              |            |                           | 500           |                          | 15,754             | 2.8     |
| British Isles.....               | 4,040          |           | 23       | 2,258  | 2,793                                     | 9,111                 | 12,841                       | 2,070   |                                |               | 13,914                |        |        |                        |              |              |            |                           | 500           |                          | 63,510             | 11.3    |
| Germany.....                     |                |           |          | 181    | 2,629                                     | 2,810                 | 1,387                        |         | 10                             |               | 1,397                 |        |        |                        |              |              |            |                           | 17,521        |                          | 7,167              | 1.3     |
| Holland.....                     |                |           |          |        | 1,185                                     | 1,185                 | 1,107                        |         |                                |               | 1,107                 |        |        |                        |              |              |            |                           | 4,207         |                          | 0.7                |         |
| Denmark.....                     |                |           |          |        | 763                                       | 763                   |                              |         |                                |               |                       |        |        |                        |              |              |            |                           | 2,292         |                          | 0.4                |         |
| Europe <sup>1</sup> .....        | 1,007          | 93        | 184      | 602    | 8,535                                     | 10,421                | 4,471                        |         | 25                             | 4,496         |                       |        |        |                        |              |              |            |                           | 763           |                          | 0.1                |         |
| Total, Europe.....               | 5,210          | 93        | 379      | 4,786  | 18,394                                    | 28,862                | 30,494                       | 2,070   | 35                             | 32,549        |                       |        |        |                        |              |              |            |                           | 14,917        |                          | 2.7                |         |
| East coast of South America..... |                |           |          |        |                                           |                       |                              |         |                                |               |                       |        |        |                        |              |              |            |                           |               |                          |                    |         |
|                                  |                |           | 352      | 36     |                                           | 388                   | 6,928                        | 153     |                                |               | 7,081                 | 52     |        |                        | 52           |              |            |                           |               |                          | 101,443            | 18.0    |
| Grand totals.....                | 56,268         | 2,503     | 739      | 10,772 | 28,214                                    | 98,496                | 184,819                      | 10,041  | 2,520                          | 10,555        | 207,918               | 91,127 | 60,112 | 31,833                 | 183,072      | 26,325       | 3,726      | 38,349                    | 58,400        | 14,517                   | 562,433            |         |
| Per cent of total cargo:         |                |           |          |        |                                           |                       |                              |         |                                |               |                       |        |        |                        |              |              |            |                           |               |                          |                    |         |
| April, 1922.....                 | 10.0           | 0.5       | 0.1      | 1.9    | 5.0                                       | 17.5                  | 32.9                         | 1.8     | 0.4                            | 1.9           | 37.0                  | 16.2   | 10.7   | 5.6                    | 32.5         | 4.7          | 0.7        | 5.0                       | 10.4          | 3.6                      | 100.0              |         |
| March, 1922.....                 | 8.4            | 0.1       | 0.9      | 1.5    | 0.3                                       | 11.2                  | 30.3                         | 5.9     | 0.5                            | 1.4           | 38.9                  | 28.0   | 8.8    | 0.6                    | 37.6         | 7.9          | 3.3        | 11.2                      | 1.0           | 2.6                      |                    |         |
| April, 1921.....                 | 15.6           | 0.3       | 0.2      | 3.6    | 4.7                                       | 24.4                  | 26.0                         | 1.4     | 0.4                            | 2.0           | 31.0                  | 7.9    | 2.3    | 12.0                   | 22.2         | 8.9          | 6.2        | 7.3                       | 22.1          | 1.0                      |                    |         |

<sup>1</sup> Figures represent tons of 2,240 pounds.<sup>2</sup> General cargo not routed so as to allow a more definite segregation.<sup>3</sup> Represents both local and transfer cargo.

# THE PANAMA CANAL RECORD

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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., May 31, 1922.

No. 42.

## Visit of the Secretary of the Navy.

The U. S. Navy transport *Henderson*, carrying the Hon. Edwin Denby, Secretary of the Navy, and members of the Class of 1881, U. S. Naval Academy, with their families, arrived at Cristobal and made the transit of the Canal on May 27, on the way to Japan. The transport tied up at Balboa until the afternoon of May 29. Secretary Denby inspected the Canal and was the guest of honor at various receptions and dinners.

## Increase in Lumber Shipments Through the Canal.

Shipments of lumber through the Panama Canal during the month of April were greater than for any month since December, 1920, and amounted to 102,194 tons. Of the total, 4,641 tons came from the west coast of Canada and 97,553 tons from the west coast of the United States. The destination of the lumber was 87,943 tons to the east coast of the United States, 3,860 tons to Great Britain, 2,573 tons to other European ports; 4,581 tons to South Africa, 1,708 tons to the east coast of South America, and 1,529 tons to Mexico.

Total shipments during the preceding 6 months, from Pacific to Atlantic, were October, 56,606 tons; November, 50,564; December, 42,610; January, 57,347; February, 64,002; and March, 74,432 tons.

## Nitrate Shipments Show Increase.

Shipments of nitrate from Chile through the Canal showed a sudden rise in April, and exceeded shipments during any month since April, 1921. From an average of approximately 40,000 tons a month for the period since April of last year (in which the largest quantity for a month was 59,957 tons, in December and the lowest 22,231 tons, in March, 1922), shipments rose to 79,325 tons in April, 1922.

Nitrate shipments during the fiscal year ending June 30, 1921, aggregated 1,530,592 tons and made up the principal cargo passing through the Canal. During the first 10 months of the current fiscal year the nitrates have aggregated 417,188 tons.

## Predictions of Increased Barley Traffic.

Increased shipments of barley from the west coast of the United States to Great Britain and the continent of Europe during the coming 12 months are predicted by some of the grain dealers and shipping men of the west coast.

During the 10 months of the current fiscal year ending April 30, the shipments of barley from the west coast of the United States passing through the Panama Canal aggregated 340,513 tons, an average of 34,051 tons a month. The month in which the greatest quantity passed through the Canal from the west coast of the United States was August, with 99,129 tons.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, May 27, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.               | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                        | Length. | Beam. | Salt water draft. | From—        | For—          | Cargo.         |        | Panama Canal tonnage. |       |
|---------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------------------------|---------|-------|-------------------|--------------|---------------|----------------|--------|-----------------------|-------|
|                     | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                              |         |       |                   |              |               | Nature.        | Tons.  | Gross.                | Net.  |
| Astral              | 20               | 14 00 | 21             | 6 13  | 21                 | 13 48 | 21               | 15 10 | American     | Standard Transportation Co.  | 439.5   | 58.0  | 23.6              | New York     | Hosaki        | Petroleum      | 10,000 | 8,913                 | 6,233 |
| Bologna             | 19               | 13 00 | 21             | 6 35  | 21                 | 13 58 | 21               | 15 33 | Italian      | Italian Line                 | 384.0   | 46.0  | 20.3              | Genoa        | Valparaiso    | General        | 5,531  | 3,773                 |       |
| Santa Veronica      | 20               | 14 28 | 21             | 8 15  | 21                 | 18 33 | 21               | 19 55 | American     | American and Cuban Line      | 251.0   | 43.6  | 24.6              | Baltimore    | San Francisco | General        | 3,340  | 2,823                 | 1,740 |
| Edwards             | 20               | 17 00 | 21             | 8 15  | 21                 | 18 38 | 21               | 19 55 | American     | Western Transportation Co.   | 245.6   | 42.0  | 19.0              | New Orleans  | Seattle       | General        | 7,863  | 2,439                 | 1,662 |
| El Dorado           | 20               | 17 00 | 21             | 8 15  | 21                 | 18 33 | 21               | 19 55 | American     | Western Transportation Co.   | 245.6   | 42.0  | 19.0              | New Orleans  | Seattle       | General        | 7,863  | 2,439                 | 1,662 |
| Moquel Branch       | 20               | 21 14 | 21             | 8 35  | 21                 | 16 30 | 21               | 17 38 | British      | Prince Steamship Line        | 425.5   | 56.4  | 27.8              | New York     | Shanghai      | General        | 7,962  | 7,629                 | 5,707 |
| Hazel Prince        | 20               | 21 38 | 21             | 10 00 | 21                 | 17 15 | 21               | 18 08 | British      | Nautilus Steamship Co.       | 400.4   | 51.2  | 20.10             | Liverpool    | Tacahuano     | General        | 3,500  | 5,208                 | 3,578 |
| Maimoa              | 21               | 16 01 | 22             | 6 25  | 22                 | 14 28 | 22               | 15 30 | British      | Shaw, Saville & Albion Co.   | 477.9   | 63.0  | 26.6              | Glasgow      | Auckland      | General        | 4,391  | 11,053                | 7,895 |
| Lobos               | 21               | 12 55 | 22             | 7 03  | 22                 | 15 20 | 22               | 22 10 | British      | Pacific Steam Navigation Co. | 405.6   | 54.2  | 23.5              | Hull         | Valparaiso    | General        | 7,158  | 7,151                 | 4,756 |
| Egremont            | 22               | 6 04  | 22             | 10 00 | 22                 | 17 36 | 22               | 18 55 | British      | James Chambers & Co.         | 410.0   | 52.0  | 27.0              | New York     | Yokohama      | General        | 7,494  | 6,049                 | 4,422 |
| Castle              | 22               | 18 21 | 23             | 6 15  | 23                 | 14 48 | 23               | 16 05 | Norwegian    | Hendrick Osterbold           | 380.0   | 52.0  | 26.6              | New York     | Yokohama      | General        | 7,313  | 5,517                 | 3,937 |
| Huftero             | 23               | 11 25 | 23             | 11 35 | 23                 | 17 57 | 23               | 19 29 | British      | Ellerman & Bucknell Line     | 400.0   | 52.3  | 18.10             | Havre        | Vancouver     | General        | 2,500  | 5,672                 | 4,042 |
| Kalomo              | 22               | 15 20 | 24             | 6 16  | 24                 | 15 28 | 24               | 16 20 | French       | French Line                  | 412.5   | 55.5  | 24.2              | Bordeaux     | Corinto       | General        | 5,181  | 6,928                 | 4,776 |
| Michigan            | 23               | 17 36 | 24             | 7 10  | 24                 | 15 32 | 24               | 16 55 | American     | Luckenbach Line              | 414.5   | 53.7  | 29.0              | Mobile       | Seattle       | General        | 8,300  | 7,779                 | 5,732 |
| Jacob               | 23               | 17 36 | 24             | 7 10  | 24                 | 15 32 | 24               | 16 55 | American     | Luckenbach Line              | 414.5   | 53.7  | 29.0              | Mobile       | Seattle       | General        | 8,300  | 7,779                 | 5,732 |
| Luckenbach.         | 24               | 2 14  | 24             | 9 05  | 24                 | 16 28 | 24               | 17 35 | American     | Crowell & Thurlow            | 399.0   | 55.1  | 26.10             | New York     | San Francisco | General        | 6,865  | 6,532                 | 4,528 |
| William A. McKenney | 24               | 12 52 | 24             | 13 00 | 24                 | 20 48 | 25               | 0 20  | British      | Dollar Line                  | 523.5   | 65.7  | 28.6              | New York     | Yokohama      | General        | 10,677 | 11,811                | 8,326 |
| Robert Dollar       | 24               | 12 52 | 24             | 13 00 | 24                 | 20 48 | 25               | 0 20  | British      | Dollar Line                  | 523.5   | 65.7  | 28.6              | New York     | Yokohama      | General        | 10,677 | 11,811                | 8,326 |
| Edward              | 24               | 17 56 | 25             | 6 17  | 25                 | 13 32 | 25               | 14 53 | American     | Luckenbach Line              | 436.0   | 57.0  | 24.6              | Philadelphia | Los Angeles   | General        | 6,295  | 8,543                 | 6,427 |
| Luckenbach.         | 25               | 14 48 | 26             | 6 27  | 26                 | 13 30 | 27               | 14 00 | British      | Monmouth Steamship Co.       | 375.0   | 45.0  | 24.0              | New York     | Hongkong      | General        | 4,000  | 5,580                 | 4,194 |
| Monmouth            | 25               | 7 15  | 26             | 7 22  | 26                 | 14 52 | 26               | 16 05 | American     | Munson Line                  | 370.0   | 53.2  | 26.6              | Sabine       | Los Angeles   | General        | 4,000  | 5,580                 | 4,194 |
| Minolta             | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | American     | United States Navy           | 150.0   | 27.6  | 14.0              | Key West     | San Francisco | Sulphur, crude | 6,600  | 5,668                 | 4,217 |
| Chakota             | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | American     | United States Navy           | 110.8   | 14.8  | 5.11              | Key West     | San Francisco |                |        |                       |       |
| Vaughn              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | American     | United States Navy           | 110.8   | 14.8  | 5.11              | Key West     | San Francisco |                |        |                       |       |
| Cogan               | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | American     | United States Navy           | 110.8   | 14.8  | 5.11              | Key West     | San Francisco |                |        |                       |       |
| Smith               | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | American     | United States Navy           | 110.8   | 14.8  | 5.11              | Key West     | San Francisco |                |        |                       |       |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16 58 | 27             | 6 03  | 27                 | 13 05 |                  |       | British      | Pacific Steam Navigation Co. | 216.0   | 35.0  | 13.2              | Cristobal    | Guayaquil     | General        | 570    | 1,357                 | 883   |
| Manuvi              | 24               | 16    |                |       |                    |       |                  |       |              |                              |         |       |                   |              |               |                |        |                       |       |



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                 |    |    |    |    |    |    |    |    |    |    |    |             |                              |                                  |     |    |    |    |    |               |                  |                   |       |       |       |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|-------------|------------------------------|----------------------------------|-----|----|----|----|----|---------------|------------------|-------------------|-------|-------|-------|
| Steel Ranger... | 20 | 19 | 00 | 21 | 7  | 40 | 21 | 14 | 40 | 21 | 17 | 55          | American...                  | United States Steel Products Co. | 424 | 2  | 56 | 2  | 26 | 5             | Seattle          | C. S. and general | 4,755 | 7,539 | 5,448 |
| North American  | 21 | 13 | 00 | 21 | 13 | 45 | 21 | 10 | 21 | 10 | 22 | 55          | British...                   | North American Steamship Co.     | 251 | 0  | 43 | 6  | 20 | 0             | New York         | General           | 2,800 | 2,444 | 1,571 |
| Santa Elisa     | 22 | 3  | 30 | 22 | 8  | 40 | 22 | 15 | 22 | 20 | 06 | American... | Grace Line                   | 360                              | 3   | 51 | 7  | 23 | 1  | New York      | General          | 3,750             | 5,057 | 4,325 |       |
| Estuana         | 22 | 6  | 00 | 22 | 8  | 55 | 22 | 17 | 27 | 19 | 50 | Peruvian... | Barber Line                  | 370                              | 3   | 48 | 7  | 23 | 6  | Philadelphia. | General          | 7,500             | 5,370 | 3,810 |       |
| Ucayali         | 22 | 9  | 00 | 22 | 11 | 39 | 22 | 18 | 39 | 27 | 10 | 52          | Peruvian...                  | Peruvian Line                    | 385 | 0  | 42 | 0  | 20 | 6             | Cristobal.       | ( <sup>6</sup> )  | 4,466 | 2,405 |       |
| Colombia        | 21 | 21 | 58 | 23 | 6  | 40 | 23 | 14 | 09 | 25 | 0  | 15          | American...                  | Pacific Mail Steamship Co.       | 390 | 0  | 48 | 7  | 19 | 11            | New York         | General           | 522   | 6,015 | 4,381 |
| Thomas P. Beal  | 21 | 21 | 30 | 23 | 7  | 36 | 23 | 14 | 23 | 14 | 47 | British...  | Crowell & Thurlow            | 324                              | 0   | 55 | 1  | 25 | 6  | New York      | ( <sup>7</sup> ) | 7,000             | 7,046 | 4,998 |       |
| Minnesota       | 23 | 3  | 15 | 23 | 8  | 17 | 23 | 15 | 25 | 11 | 06 | American... | Pacific Steam Navigation Co. | 920                              | 0   | 34 | 0  | 10 | 0  | Pto. Colombia | ( <sup>8</sup> ) | 17                | 1,187 | 622   |       |
| W. L. Connelly  | 23 | 6  | 10 | 23 | 8  | 54 | 23 | 17 | 00 | 24 | 0  | 33          | American...                  | American-Hawaiian Line.          | 408 | 0  | 53 | 7  | 27 | 0             | Tamaco           | General           | 7,500 | 7,150 | 4,913 |
| Jamaica         | 23 | 11 | 00 | 23 | 11 | 36 | 23 | 18 | 39 | 23 | 20 | 30          | British...                   | Shenar Navigation Co.            | 304 | 0  | 44 | 2  | 16 | 6             | Tampico          | Ballast           | 3,214 | 2,326 | 4,981 |
| W. L. Connelly  | 23 | 11 | 00 | 23 | 12 | 08 | 23 | 19 | 24 |    |    |             | British...                   | Pacific Metals Corporation       | 81  | 0  | 25 | 6  | 9  | 5             | Buenaventura     | Coffee            | 132   | 72    |       |
| Nevada          | 19 | 15 | 24 | 7  | 00 | 24 | 16 | 38 | 24 | 16 | 38 | American... | United States Government     | 575                              | 0   | 92 | 0  | 29 | 0  | Norfolk       | ( <sup>9</sup> ) | 6,457             | 6,759 | 4,900 |       |
| West Isleta     | 23 | 22 | 31 | 24 | 7  | 54 | 24 | 16 | 37 | 24 | 23 | 34          | American...                  | United States Shipping Board     | 409 | 8  | 54 | 2  | 23 | 6             | Philadelphia     | ( <sup>10</sup> ) | 3,069 | 5,455 | 3,902 |
| Orinoco         | 24 | 9  | 35 | 24 | 14 | 24 | 18 | 00 | 24 | 20 | 35 | American... | Oriental Navigation Co.      | 376                              | 4   | 52 | 3  | 18 | 0  | New York      | General          | 8,300             | 6,928 | 5,182 |       |
| Endicott        | 24 | 16 | 45 | 25 | 6  | 48 | 25 | 13 | 26 | 25 | 14 | 26          | American...                  | United States Shipping Board     | 402 | 6  | 54 | 8  | 23 | 0             | New York         | General           | 3,464 | 7,112 | 4,806 |
| Ohioan          | 25 | 2  | 05 | 25 | 8  | 51 | 25 | 15 | 45 | 25 | 19 | 50          | American...                  | American-Hawaiian Line.          | 407 | 5  | 53 | 7  | 22 | 0             | New York         | General           | 6,347 | 5,200 | 4,031 |
| Oak Branch.     | 25 | 8  | 15 | 25 | 9  | 47 | 25 | 17 | 30 | 25 | 19 | 20          | British...                   | F. & W. Kilsen.                  | 385 | 0  | 49 | 8  | 24 | 0             | Corral           | General           | 9,600 | 7,505 | 5,627 |
| George          | 25 | 9  | 15 | 25 | 10 | 46 | 25 | 18 | 22 | 25 | 18 | 22          | Norwegian...                 | Peter Olsen                      | 423 | 5  | 55 | 3  | 29 | 0             | Portland         | General           | 1,580 | 1,018 |       |
| Washington.     | 25 | 10 | 30 | 25 | 14 | 12 | 25 | 21 | 05 |    |    |             | British...                   | Pacific Steam Navigation Co.     | 246 | 0  | 35 | 0  | 15 | 7             | Champerico       | ( <sup>11</sup> ) | 6,300 | 5,220 | 3,734 |
| Cauca           | 25 | 1  | 00 | 25 | 7  | 56 | 25 | 15 | 30 | 26 | 18 | 30          | American...                  | United States Shipping Board     | 395 | 1  | 49 | 4  | 23 | 0             | New York         | Lumber, general.  | 4,535 | 3,068 |       |
| Osauga          | 25 | 22 | 00 | 27 | 6  | 41 | 27 | 16 | 07 |    |    |             | Chilean...                   | Chilean Line                     | 379 | 6  | 44 | 3  | 18 | 6             | Cristobal.       | General           | 4,750 | 4,791 | 3,374 |
| Aysen           | 25 | 23 | 15 | 27 | 7  | 44 | 27 | 16 | 27 | 27 | 17 | 16          | German...                    | Roland Line                      | 361 | 0  | 51 | 0  | 21 | 8             | Hamburg          | General           | 4,750 | 4,791 | 3,374 |

<sup>12</sup> Copper, cocoa, cotton, and general.

<sup>13</sup> Coffee, cotton, hides, and pearl shell.

<sup>14</sup> Coffee, sugar, flour, dried fruit, etc.

<sup>15</sup> Hides, coffee, and general.

<sup>16</sup> 28,400 tons displacement.

<sup>17</sup> 28 tons greater than 12 are postmeridian.

<sup>18</sup> 28 tons greater than 12 are postmeridian.

<sup>19</sup> 28 tons greater than 12 are postmeridian.

<sup>20</sup> 28 tons greater than 12 are postmeridian.

<sup>21</sup> 28 tons greater than 12 are postmeridian.

<sup>22</sup> 28 tons greater than 12 are postmeridian.

<sup>23</sup> 28 tons greater than 12 are postmeridian.

<sup>24</sup> 28 tons greater than 12 are postmeridian.

<sup>25</sup> 28 tons greater than 12 are postmeridian.

<sup>26</sup> 28 tons greater than 12 are postmeridian.

<sup>27</sup> 28 tons greater than 12 are postmeridian.

<sup>28</sup> 28 tons greater than 12 are postmeridian.

<sup>29</sup> 28 tons greater than 12 are postmeridian.

<sup>30</sup> 28 tons greater than 12 are postmeridian.

<sup>31</sup> 28 tons greater than 12 are postmeridian.

<sup>32</sup> 28 tons greater than 12 are postmeridian.

<sup>33</sup> 28 tons greater than 12 are postmeridian.

<sup>34</sup> 28 tons greater than 12 are postmeridian.

<sup>35</sup> 28 tons greater than 12 are postmeridian.

<sup>36</sup> 28 tons greater than 12 are postmeridian.

<sup>37</sup> 28 tons greater than 12 are postmeridian.

<sup>38</sup> 28 tons greater than 12 are postmeridian.

<sup>39</sup> 28 tons greater than 12 are postmeridian.

<sup>40</sup> 28 tons greater than 12 are postmeridian.

<sup>41</sup> 28 tons greater than 12 are postmeridian.

<sup>42</sup> 28 tons greater than 12 are postmeridian.

<sup>43</sup> 28 tons greater than 12 are postmeridian.

<sup>44</sup> 28 tons greater than 12 are postmeridian.

<sup>45</sup> 28 tons greater than 12 are postmeridian.

<sup>46</sup> 28 tons greater than 12 are postmeridian.

<sup>47</sup> 28 tons greater than 12 are postmeridian.

<sup>48</sup> 28 tons greater than 12 are postmeridian.

<sup>49</sup> 28 tons greater than 12 are postmeridian.

<sup>50</sup> 28 tons greater than 12 are postmeridian.

<sup>51</sup> 28 tons greater than 12 are postmeridian.

<sup>52</sup> 28 tons greater than 12 are postmeridian.

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<sup>56</sup> 28 tons greater than 12 are postmeridian.

<sup>57</sup> 28 tons greater than 12 are postmeridian.

<sup>58</sup> 28 tons greater than 12 are postmeridian.

<sup>59</sup> 28 tons greater than 12 are postmeridian.

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<sup>61</sup> 28 tons greater than 12 are postmeridian.

<sup>62</sup> 28 tons greater than 12 are postmeridian.

<sup>63</sup> 28 tons greater than 12 are postmeridian.

<sup>64</sup> 28 tons greater than 12 are postmeridian.

<sup>65</sup> 28 tons greater than 12 are postmeridian.

<sup>66</sup> 28 tons greater than 12 are postmeridian.

<sup>67</sup> 28 tons greater than 12 are postmeridian.

<sup>68</sup> 28 tons greater than 12 are postmeridian.

<sup>69</sup> 28 tons greater than 12 are postmeridian.

<sup>70</sup> 28 tons greater than 12 are postmeridian.

<sup>71</sup> 28 tons greater than 12 are postmeridian.

<sup>72</sup> 28 tons greater than 12 are postmeridian.

<sup>73</sup> 28 tons greater than 12 are postmeridian.

<sup>74</sup> 28 tons greater than 12 are postmeridian.

<sup>75</sup> 28 tons greater than 12 are postmeridian.

<sup>76</sup> 28 tons greater than 12 are postmeridian.

<sup>77</sup> 28 tons greater than 12 are postmeridian.

<sup>78</sup> 28 tons greater than 12 are postmeridian.

<sup>79</sup> 28 tons greater than 12 are postmeridian.

<sup>80</sup> 28 tons greater than 12 are postmeridian.

<sup>81</sup> 28 tons greater than 12 are postmeridian.

<sup>82</sup> 28 tons greater than 12 are postmeridian.

<sup>83</sup> 28 tons greater than 12 are postmeridian.

<sup>84</sup> 28 tons greater than 12 are postmeridian.

<sup>85</sup> 28 tons greater than 12 are postmeridian.

<sup>86</sup> 28 tons greater than 12 are postmeridian.

<sup>87</sup> 28 tons greater than 12 are postmeridian.

<sup>88</sup> 28 tons greater than 12 are postmeridian.

<sup>89</sup> 28 tons greater than 12 are postmeridian.

<sup>90</sup> 28 tons greater than 12 are postmeridian.

<sup>91</sup> 28 tons greater than 12 are postmeridian.

<sup>92</sup> 28 tons greater than 12 are postmeridian.

<sup>93</sup> 28 tons greater than 12 are postmeridian.

<sup>94</sup> 28 tons greater than 12 are postmeridian.

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\* Coffee, cotton, hides, and general.

\* Copper, cocoa, cotton, and general.

\* Coffee, sugar, flour, dried fruit, etc.

\* Hides, coffee, and general.

\* Lumber, shingles, and general.

\* 28,400 tons displacement.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

| *ARRIVALS. |                      |                                 |                         | *DEPARTURES.    |             |                                 |                           |
|------------|----------------------|---------------------------------|-------------------------|-----------------|-------------|---------------------------------|---------------------------|
| Date.      | Vessel.              | Line.                           | From—                   | Date.           | Vessel.     | Line.                           | For—                      |
| May 21.    | Turrialba.           | United Fruit Co.                | New Orleans via Habana. | May 21.         | Advance.    | Panama Railroad Steamship Line. | Puerto Colombia.          |
| May 22.    | La Navarre.          | French Line.                    | Havre via wayports.     | May 22.         | Cristobal.  | Panama Railroad Steamship Line. | Norfolk.                  |
| May 23.    | Albaro.              | Italian Line.                   | Genoa via wayports.     | May 23.         | Turrialba.  | United Fruit Co.                | Bocas del Toro.           |
| May 23.    | Tolosa.              | United Fruit Co.                | New York via Habana.    | May 23.         | Swuyvesant. | Royal Netherlands W. I. Mail.   | Port Limon.               |
| May 23.    | Swuyvesant.          | Royal Netherlands W. I. Mail.   | Hamburg via wayports.   | May 23.         | Albaro.     | Italian Line.                   | Port Limon.               |
| May 24.    | San Gil.             | United Fruit Co.                | Boston via wayports.    | May 24.         | Tolosa.     | United Fruit Co.                | New Orleans.              |
| May 24.    | Cartago.             | United Fruit Co.                | New Orleans.            | May 25.         | Cartago.    | United Fruit Co.                | New Orleans via wayports. |
| May 24.    | Gen. G. W. Goethals. | Panama Railroad Steamship Line. | Liverpool.              | May 25.         | Turrialba.  | United Fruit Co.                | New Orleans.              |
| May 24.    | Oranian.             | French Line.                    | New York via Haiti.     | May 25.         | San Gil.    | United Fruit Co.                | Boston via wayports.      |
| May 25.    | Turrialba.           | United Fruit Co.                | Bocas del Toro.         | May 26.         | La Navarre. | French Line.                    | Havre via wayports.       |
| May 25.    | Antiochia.           | Hamburg-American Line.          | Hamburg via wayports.   | May 27.         | Coronado.   | Elders & Tyffes, Ltd.           | Bristol via wayports.     |
| May 26.    | Swuyvesant.          | Port Limon.                     | Port Limon.             | May 27.         | Antiochia.  | Hamburg-American Line.          | Puerto Barrios.           |
| May 26.    | Albaro.              | Italian Line.                   | Port Limon.             | May 27.         | Oranian.    | Leeward Line.                   | Kingston.                 |
| May 27.    | Coronado.            | Elders & Tyffes, Ltd.           | Port Limon.             | May 27.         | Swuyvesant. | Royal Netherlands W. I. Mail.   | Puerto Colombia.          |
| May 27.    | Advance.             | Panama Railroad Steamship Line. | Puerto Colombia.        |                 |             |                                 |                           |
|            |                      |                                 |                         | PORT OF BALBOA. |             |                                 |                           |
| May 26.    | Lady Sybil.          | International Petroleum Co.     | Talara.                 |                 |             |                                 |                           |

\* Other than ships passing through the Canal.

### Largest Cargo Carried Through the Canal.

The steamer *Bethore*, arriving at Balboa in the morning of May 29 and making the transit of the Canal on the same day, reported a cargo of 19,000 tons, the largest to have passed through the Canal on any ship to date. The previous record was 15,753 tons, carried by the steamship *Orca* of the Pacific Steam Navigation Company.

The cargo of the *Bethore* was iron ore, shipped from Cruz Grande, Chile, to New York. The ship is owned and operated by the Ore Steamship Corporation. It is one of several new steamers built for the company, which have been commented on considerably from the novelty of their having been built to carry oil in bulk, general cargo, or ore in the trade between the west coast of South America and the Atlantic coast of the United States and Mexico. The *Bethore*, however, transited the Canal on her southbound voyage in ballast, on May 7.

The *Bethore* is 550 feet in length by 72 feet beam, of 14,900 gross and 9,615 net tons. At the time of passing through the Canal on May 29 she was drawing 32 feet 6 inches of water.

### Initial Sailing of China-American Line.

The steamship *Monmouth*, arriving at the Canal on May 25, from New York by way of Norfolk and Habana, bound for Hongkong, is operated by the China-American Line, a Chinese organization, and it is said that this is the opening of a regular service by the company between the Atlantic coast of North America and China.

The *Monmouth* is a British ship, owned by the Monmouth Steamship Company, of Toronto. She is a ship of 4,078 gross and 2,569 net tons, 375 feet in length, and at the time of passage through the Canal was carrying 4,000 tons of general cargo. Her crew consisted of 72, of whom 60 were Chinese, and she was carrying 39 Chinese passengers.

### Notice to Mariners.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., May 22, 1922.

Effective July 1, the red sectors (from 160° to 200° covering Iguana Island, and from 35° to 60° covering N. and S., Fraile Rocks) will be discontinued.

Cape Mala Light will then show—White, flashing, all around the horizon. No other change.

JAY J. MORROW,  
Governor.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending May 27, 1922.

| Name of vessel.            | Line or charterer.                    | Arrived.    | Departed.   | Cargo—     |        |
|----------------------------|---------------------------------------|-------------|-------------|------------|--------|
|                            |                                       |             |             | Discharged | Laded. |
|                            |                                       |             |             | Tons.      | Tons.  |
| Santa Tecla.....           | Grace Line.....                       | May 15..... | May 16..... | 124        | 270    |
| Huaseo.....                | South American Steamship Line.....    | May 15..... | May 15..... |            | 7      |
| Depere.....                | United States Shipping Board.....     | May 16..... | May 17..... | 166        |        |
| Almagro.....               | Pacific Steam Navigation Co.....      | May 17..... | May 17..... | 3          |        |
| Ansaldo San Giorgio I..... | Italian Line.....                     | May 17..... | May 17..... | 126        |        |
| A. L. Kent.....            | Crowell & Thurlow.....                | May 17..... | May 17..... |            | 102    |
| Santa Ana.....             | Pacific Mail Steamship Co.....        | May 19..... | May 19..... | 6          | 27     |
| Colombia.....              | Pacific Mail Steamship Co.....        | May 22..... | May 23..... | 107        |        |
| Laura C. Hall.....         | Pacific Metals Transportation Co..... | May 23..... | May 23..... | 4          |        |
| Cauca.....                 | Pacific Steam Navigation Co.....      | May 25..... | May 25..... | 5          |        |
| Aysen.....                 | Chilean Line.....                     | May 26..... | May 27..... | 112        |        |
| Manavi.....                | Pacific Steam Navigation Co.....      | May 27..... | May 27..... |            | 11     |
| San Francisco.....         | Johnson Line.....                     | May 27..... |             | 284        |        |
| Helder.....                | Royal Netherlands W. I. Mail.....     | May 27..... | May 27..... | 23         |        |
| Lady Sybil.....            | International Petroleum Co.....       | May 27..... |             | 300        |        |

# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending May 27, 1922.

| Name of vessel.      | Line or charterer.                | Arrived. | Departed. | Cargo—             |                  |
|----------------------|-----------------------------------|----------|-----------|--------------------|------------------|
|                      |                                   |          |           | Discharged         | Laded.           |
|                      |                                   |          |           | <i>Tons.</i>       | <i>Tons.</i>     |
| Venezuela.           | Royal Netherlands W. I. Mail.     | May 14.  | May 14.   | 33                 | 3,253            |
| Abangarez.           | United Fruit Co.                  | May 14.  | May 15.   | ( <sup>1</sup> )   | 179              |
| Huasco.              | Chilean Line.                     |          | May 15.   |                    | 239              |
| Kina.                | East Asiatic Co.                  | May 15.  | May 15.   | ( <sup>1</sup> )   | 58               |
| Conde de Churrua.    | Anglo-Saxon Petroleum Co.         | May 15.  | May 17.   | 6,150              | ( <sup>3</sup> ) |
| Parismina.           | United Fruit Co.                  | May 15.  | May 18.   | 1,065              | 115              |
| Ulua.                | United Fruit Co.                  | May 16.  | May 17.   | 252                | 200              |
| San Juan.            | Pacific Mail Steamship Co.        |          | May 17.   |                    | 958              |
| Mantaro.             | Peruvian Line.                    |          | May 17.   |                    | 463              |
| Advance.             | Panama Railroad Steamship Line.   | May 16.  |           | 401                |                  |
| Cristobal.           | Panama Railroad Steamship Line.   | May 16.  |           | 6,477              |                  |
| Sixaola.             | United Fruit Co.                  | May 17.  | May 17.   | 2,242              | 1 <sup>1</sup>   |
| Carrillo.            | United Fruit Co.                  | May 17.  | May 18.   | 40                 | 360              |
| Norman Bridge.       | Pan-American Pet. and Transp. Co. | May 17.  | May 18.   | 6,000              | ( <sup>3</sup> ) |
| Almagro.             | Pacific Steam Navigation Co.      | May 17.  | May 18.   | 895                | 253              |
| Abangarez.           | United Fruit Co.                  | May 18.  | May 18.   | 1                  | 1                |
| Moerdyk.             | Holland-American Line.            | May 18.  | May 19.   | 67                 | 119              |
| Alvarado.            | Pacific Steam Navigation Co.      | May 18.  | May 19.   | 119                | 28               |
| Orita.               | Pacific Steam Navigation Co.      | May 18.  | May 19.   | ( <sup>1</sup> )   | 58               |
| Santa Ana.           | Pacific Mail Steamship Co.        | May 18.  | May 19.   | 199                | 231              |
| Colon.               | Panama Railroad Steamship Line.   |          | May 19.   |                    | 2,382            |
| Solana.              | Pacific Mail Steamship Co.        | May 19.  | May 20.   | 10,000             | ( <sup>3</sup> ) |
| Essequibo.           | Pacific Steam Navigation Co.      | May 19.  | May 20.   | 349                | 62               |
| Bologna.             | Italian Line.                     | May 19.  |           | 84                 |                  |
| Sarplos.             | Caribbean Steamship Line.         | May 19.  | May 20.   | 223                | ( <sup>1</sup> ) |
| Ceres.               | Royal Netherlands W. I. Mail.     | May 19.  |           | 305                |                  |
| San Bruno.           | United Fruit Co.                  | May 20.  | May 20.   | 22                 | 152              |
| Advance.             | Panama Railroad Steamship Line.   |          | May 21.   |                    | 32               |
| Ceres.               | Royal Netherlands W. I. Mail.     |          | May 21.   |                    | 1,124            |
| Turrialba.           | United Fruit Co.                  | May 21.  | May 22.   | ( <sup>1</sup> )   | 93               |
| Lobos.               | Pacific Steam Navigation Co.      | May 21.  | May 22.   | 197 <sup>1</sup>   | ( <sup>2</sup> ) |
| Santa Elisa.         | Grace Line.                       | May 22.  | May 22.   | 31                 | ( <sup>2</sup> ) |
| Ucayali.             | Peruvian Line.                    | May 22.  | May 27.   | 1,920 <sup>3</sup> | 285              |
| Michigan.            | French Line.                      | May 22.  | May 24.   | 19                 | ( <sup>1</sup> ) |
| La Navarre.          | French Line.                      | May 22.  | May 26.   | 32                 | 1                |
| Laura C. Hall.       | Pacific Metals Corporation.       | May 23.  |           | 41                 |                  |
| Albaro.              | Italian Line.                     | May 23.  | May 23.   | 30                 | ( <sup>1</sup> ) |
| Stuyvesant.          | Royal Netherlands W. I. Mail.     | May 23.  | May 23.   | 22                 | ( <sup>1</sup> ) |
| Tolosa.              | United Fruit Co.                  | May 23.  | May 24.   | 395                | 28               |
| Jamaica.             | Pacific Steam Navigation Co.      | May 23.  | May 25.   | 76                 | 39               |
| Colombia.            | Pacific Mail Steamship Co.        | May 23.  | May 25.   | 1,507              | 477              |
| Cartago.             | United Fruit Co.                  | May 24.  | May 25.   | 882                | 154              |
| Gen. G. W. Goethals. | Panama Railroad Steamship Line.   | May 24.  |           | 1,331              |                  |
| San Gil.             | United Fruit Co.                  | May 24.  | May 25.   | 13                 | 185              |
| Oranian.             | Leyland Line.                     | May 24.  | May 27.   | 843                | 629              |
| Cauca.               | Pacific Steam Navigation Co.      | May 25.  |           | 1,180              |                  |
| Turrialba.           | United Fruit Co.                  | May 25.  | May 25.   | 5 <sup>1</sup>     | 39               |
| Antiochia.           | Hamburg-American Line.            | May 25.  | May 27.   | 201                | 495              |
| San Francisco.       | Johnson Line.                     | May 26.  | May 27.   | 597                | ( <sup>2</sup> ) |
| Albaro.              | Italian Line.                     | May 26.  |           | 4 <sup>1</sup>     |                  |
| Helder.              | Royal Netherlands W. I. Mail.     | May 26.  |           | 95                 |                  |
| Advance.             | Panama Railroad Steamship Line.   | May 27.  |           | 245                |                  |
| Coronado.            | Elders & Fyffes, Ltd.             | May 27.  | May 27.   | 6                  | ( <sup>1</sup> ) |
| Aysen.               | Chilean Line.                     | May 27.  |           | 589                |                  |
| Manavi.              | Pacific Steam Navigation Co.      |          | May 27.   |                    | 107              |

<sup>1</sup> No cargo discharged.<sup>2</sup> Pounds.<sup>3</sup> No cargo laded.

## Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended May 24:

Tug *Empire*, repair weather doors and dogs in deck house; repair air ports in deck house; repair scuttle covers on main deck; repair hatch covers on forward main deck; repair hatch cover on hatch leading to after storeroom; plug holes in main deck plate; repair 2 ventilator trunks on main deck, forward; overhaul smokestack guides; secure wood hatch cover on upper deck, test after capstan; connect up and test boiler; dress 9 chisels and 1 center punch; repair miscellaneous wrenches; manufacture 1 hatch and miscellaneous hatch strongbacks; steamships *Ansaldo San Giorgio I*, manufacture 20 piston rings; manufacture 1 new piston; convert 1 old piston to new design; manufacture packing box; *Scotia Maiden*, manufacture 2 spur gears; remetal 3 bearings.



## PREVIOUSLY REPORTED.

Launch *Petrolio*, miscellaneous light repairs; dredge *No. 86*, miscellaneous heavy repairs; tug *Favorite*, convert from coal burner to oil burner.

The following vessels were at the Cristobal shops for repairs during the week ended May 29:

Steamships *La Navarre*, repair and mount pipe to boiler; *Stuyvesant*, repair ice machine; clear scupper, repair cabin water cans, etc.; *Albaro*, repair air and brine circulating pumps; repair piping, etc.; *Jamaica*, manufacture and fit 2 new piston valves and rings, 2 new valve spindles; face up control valve and control valve face for steering engine; fit new driving shaft to No. 2 port winch; fit new driving wheel to No. 1 winch; repair auxiliary feed pump exhaust pipe, etc.; U. S. Army transport *Edgemoor*, repair steering engine; repair copper winch pipe; steamship *Cauca*, repair ice machine, ballast pump, circulating pump engine, and dynamo; test boiler; repair piping and screening in various staterooms and officer's quarters; make 3 new piston rings for H. P. cylinder; repair port lights; renew part of auxiliary sanitary pump, suction pipe, etc.; motor schooner *Laura C. Hall*, dock and undock; scrape and paint hull; calk and plug worm holes, etc.; make new friction band for cargo winch; make 4 copper strainers and 1 muffler as sketch, etc.; steamship *Gen. G. W. Goethals*, repair sanitary line to officer's quarters and straighten winch eccentric; *West Isleta*, *Heffron*, *Crenatula*, and motor ship *San Francisco*, minor repairs.

## Deceased Employee.

The estate of the following deceased employee of The Panama Canal is now in process of settlement, and any claims against this estate, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due him, should be presented at the office of the Administrator of Estates at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. This name will be published but once.

| Name.                 | Check No. | Native of—    | Isthmian residence. | Employed by—          | Date of death. |
|-----------------------|-----------|---------------|---------------------|-----------------------|----------------|
| Joseph Beckford ..... | 30419     | Jamaica ..... | Corozal .....       | Health Department ... | May 9, 1922.   |

## Prices of Miscellaneous Supplies at Panama Canal Storehouses.

The following are prices to individuals and companies including the 25 per cent surcharge, effective May 15, 1922:

| Commodities.                                                      | Unit.          | Price. |
|-------------------------------------------------------------------|----------------|--------|
| Brass, bar, average.....                                          | Lb.            | \$0.20 |
| Brass, sheet, average.....                                        | Lb.            | .51    |
| Bronze, Tobin, average.....                                       | Lb.            | .27    |
| Gasoline, motor grade.....                                        | Gal.           | .3125  |
| Metal, yellow.....                                                | Lb.            | .34    |
| Oakum, Navy, spun.....                                            | Lb.            | .11    |
| Oakum, Navy, unspun.....                                          | Lb.            | .14    |
| Oil, Diesel, at Cristobal only, in bulk, no surcharge.....        | Bbl of 42 gals | 3.50   |
| Oil, fuel, at Balboa and Cristobal, in bulk, no surcharge.....    | Bbl of 42 gals | 1.70   |
| Oil, ammonia, cylinder.....                                       | Gal.           | .40    |
| Oil, burning.....                                                 | Gal.           | 1.08   |
| Oil, engine, gas, in barrels.....                                 | Gal.           | .49    |
| Oil, engine, gas, heavy, in drums.....                            | Gal.           | .50    |
| Oil, engine, gas, heavy, in barrels.....                          | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in cases.....                      | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in barrels.....                    | Gal.           | .50    |
| Oil, engine, gas, extra heavy, in drums.....                      | Gal.           | .35    |
| Oil, engine, gas, extra heavy, for motor schooners, in drums..... | Gal.           | .40    |
| Oil, kerosene, in drums.....                                      | Gal.           | .21    |
| Oil, marine engine.....                                           | Gal.           | 1.04   |
| Oil, marine engine.....                                           | Gal.           | .56    |
| Paint, lead, white, dry.....                                      | Lb.            | .09    |
| Paint, lead, white, in oil.....                                   | Lb.            | .09    |
| Paint, zinc, white, dry.....                                      | Lb.            | .15    |
| Paint, zinc, white, in oil.....                                   | Lb.            | .12    |
| Grease, gear, chain and wire rope, lubricating.....               | Lb.            | .09    |
| Grease, yellow, cup, No. 3.....                                   | Lb.            | .11    |
| Grease, yellow, cup, No. 5.....                                   | Lb.            | .09    |
| Soda, ash.....                                                    | Lb.            | .03    |
| Waste, cotton, colored.....                                       | Lb.            | .14    |
| Waste, cotton, white.....                                         | Lb.            | .15    |



## Official Circulars.

## Acting Auditor.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., May 22, 1922.

To all concerned—Effective to-day, and during the absence of Mr. H. A. A. Smith on leave, Mr. Elwyn Greene will act as Auditor of The Panama Canal.

JAY J. MORROW,  
Governor.

## Stock of Material and Supplies.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., May 19, 1922.

## TO HEADS OF DEPARTMENTS AND DIVISIONS:

It is necessary to reduce to a minimum, consistent with the proper maintenance and operation of the Panama Canal and the various business activities carried on, the value of the stock of material and supplies in the general storehouses and in the possession of divisions unapplied to the work. The amount of the appropriation to be made for the maintenance and operation of the Canal for the fiscal year ending June 30, 1923, has been fixed on the assumption that \$1,000,000 of the total expenditures of the fiscal year would be provided from a reduction in the stock on hand by using that amount of material in excess of purchases made.

The requirements as above set forth make it necessary to fix a limit on the value of unapplied stock of material and supplies that may at any time be in the possession of departments and divisions. They also make it necessary to place on the Supply Department final and complete responsibility for ordering material and maintaining stock.

The following statement shows the value of the stock of material and supplies in the possession of various divisions of the Department of Operation and Maintenance as of June 30, 1921, March 31, 1922, and the value which must not be exceeded during the fiscal year 1923, unless an increase is necessary for special work and special authority from the Governor is obtained in advance:

| DIVISION.                        | June 30,<br>1921. | March 31,<br>1922. | Maximum,<br>1923. |
|----------------------------------|-------------------|--------------------|-------------------|
| Locks Operation.....             | \$424,068.19      | \$401,467.93       | \$375,000.00      |
| Electrical.....                  | 52,149.07         | 29,524.13          | 25,000.00         |
| Municipal Engineering.....       | 109,899.22        | 69,517.52          | 60,000.00         |
| Dredging.....                    | 68,502.08         | 30,945.39          | 30,000.00         |
| Mechanical.....                  | 49,961.77         | 38,389.23          | 40,000.00         |
| Marine.....                      | 17,267.58         | 9,441.24           | 10,000.00         |
| Motor Car Repair Shop.....       | 3,615.30          | 715.34             | 3,000.00          |
| Constructing Quarter-master..... |                   |                    | 10,000.00         |
| Dams and Backfills.....          | 367.41            | 298.41             | 500.00            |

No material will be purchased if material on hand will serve the purpose with a reasonable degree of satisfaction. Final and complete responsibility for determining whether new material shall be purchased is vested in the Supply Department, except that all requisitions for the purchase of material are subject to the approval of the Engineer of Maintenance as provided in Circular 660-57 and except that the decisions of the Supply Department on the usability of the material on hand are subject to reconsideration

by the Governor. The Supply Department is also vested with complete responsibility for the maintenance of the stock of material and supplies.

JAY J. MORROW,  
Governor.

## District Dentists.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., May 23, 1922.

## CIRCULAR NO. 622-4:

1. Circular No. 622-1, of December 10, 1917, and Circular No. 622-2, of February 16, 1918, providing for certain free dental work upon employees and school children, are hereby canceled, effective July 1, 1922. Repair work performed by district dentists upon employees, required as a result of injuries received in the line of duty, will be charged to the Accounting Department, Claim Officer, who will secure reimbursement from the United States Employees' Compensation Commission.

2. Effective July 1, 1922, a rental charge will be made against district dentists for office room and office furniture and equipment which may be assigned by The Panama Canal to such dentists for their use.

JAY J. MORROW,  
Governor.

## Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa. For delivering lump coal for galley use, in sacks, \$12 additional per ton; but if vessel furnishes sacks, \$5 per ton additional.

For coal in large quantities as specified below, taken from alongside coaling plants:

(a) To vessels taking 1,200 tons or over;  
(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;  
Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

### Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

### Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

### Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

### Typewriters For Sale.

The Supply Department has on sale a limited number of Underwood typewriters, second hand, models 4 and 5. Prices range from \$20 to \$35. Inspection can be made by applying to Storekeeper, Supply Department, Administration Building, Balboa Heights.

### Binders for The Panama Canal Record.

Cardboard covers, punched and fitted with brass fasteners, forming binders for THE PANAMA CANAL RECORD, are offered for sale at 25 cents a set, for the benefit of those who wish to keep a file of the issues for ready reference. Orders may be addressed to The Panama Canal, Balboa Heights, Canal Zone, or The Panama Canal, Washington, D. C.

### Sale of Cattle.

Grade Holstein bull calves 1 to 3 months old from registered sires. Also grade Hereford and Durham bulls and heifers 6 months to 2 years old. Sales will be made upon first satisfactory offer. For further information inquire Superintendent, Cattle Industry, Room 269, Administration Building, Balboa Heights.

### Empty Barrels For Sale.

Address inquiries to Chief Quartermaster, The Panama Canal, Balboa Heights, C. Z.

### Sale of Lumber.

The Panama Canal has on hand at Balboa storehouse considerable quantities of 1" x 6", 1" x 8", and 1" x 10", dressed lumber, Douglas fir, grade 1, select common. Further information will be furnished by General Storekeeper, Balboa, or at office of Chief Quartermaster, Balboa Heights.

### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

### Hours of Departure of Passenger Trains.

Following are the hours of departure of the passenger trains of the Panama Railroad running between the Atlantic and the Pacific:

From Colon: 9.10 a. m., 12.15 p. m., 4 p. m.

From Panama: 7 a. m., 12.15 p. m., 6.10 p. m.

The trains leaving at 12.15 p. m. do not run on Sundays and holidays; the others are daily.

### Cable Address of The Panama Canal.

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

### Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office  
at Cristobal, C. Z., under the Act of March 3, 1879.

*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., June 7, 1922.

No. 43.

## Increased Canal Traffic in May.

A total of 243 ocean-going commercial vessels transited the Canal during the month of May. The tolls on them amounted to \$1,015,057.37, as compared with \$953,256.11 tolls for 230 vessels last month, and \$835,882.77 for 210 vessels in the month of May last year.

The revenue from tolls during May has been exceeded during but 3 months since the opening of the Canal, viz., January, March, and October of 1921, when the tolls were, respectively, \$1,095,857.46, \$1,105,536.55, and \$1,047,935.62.

The tons of cargo carried by vessels transiting the Canal during May aggregated 1,158,507 tons. With the exception of the cargo in January, 1921 (1,177,053 cargo tons) this is the greatest cargo tonnage through the Canal during any month since its opening.

In addition to the above commercial traffic, 6 small nonseagoing launches transited the Canal during the month, on which tolls of \$12.75 were paid, and 16 vessels passed through the Canal free of tolls. Of the vessels transiting the Canal without payment of tolls, 14 were noncommercial vessels of the United States Government, 1 was a foreign commercial vessel passed through the Canal free of tolls in order to have repairs made at the Balboa dry dock, and 1 was a government vessel owned by the Republic of Colombia.

## American Tonnage Through Canal in May Exceeds All Previous Records.

During the past month, all previous monthly records of American tonnage through the Canal were exceeded. The vessels of United States registry which transited the Canal, numbering 108, out of the total of 243, had an aggregate net tonnage of 511,621, Panama Canal measurement, and carried 608,539 tons of cargo. Tolls paid by these vessels totaled \$506,148.97. Vessels of American registry furnished practically half of the tonnage through the Canal, paid approximately half of the tolls, and carried slightly more than half of the total cargo passing through the Canal. The number of American vessels, 108, was exceeded in 5 previous months; the record is 121, in August, 1920.

The three principal trade areas covered by American vessels during the month were:

(a) Between United States coastwise ports, a total of 55 vessels, aggregating 260,946 net tons, Panama Canal measurement, and carrying 281,447 tons of cargo.

(b) Between the east coast of the United States and the Orient, a total of 16 vessels, aggregating 86,573 net tons, Panama Canal measurement, and carrying 141,285 tons of cargo; and

(c) Between the east coast of the United States and the west coast of South America, a total of 16 vessels, aggregating 75,932 net tons, Panama Canal measurement, and carrying 76,360 tons of cargo.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, June 3, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.               | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                              | Length. | Beam. | Salt water draft. | From—         | Port—          | Cargo.          |       | Panama Canal tonnage. |       |
|---------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------------------------------|---------|-------|-------------------|---------------|----------------|-----------------|-------|-----------------------|-------|
|                     | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                    |         |       |                   |               |                | Nature.         | Tons. | Gross.                | Net.  |
| Chas. H. Cramp      | 28               | 8 30  | 28             | 9 00  | 28                 | 16 15 | 28               | 18 53 | American.    | Atl. Gulf & Pacific S. Co. (S. B.) | 404 6   | 53 9  | 22 0              | New York.     | Seattle.       | General.        | 4,167 | 6,755                 | 4,750 |
| Caddo               | 28               | 1 03  | 28             | 10 55 | 28                 | 17 24 | 28               | 20 00 | American.    | Standard Oil Co.                   | 411 5   | 55 0  | 19 0              | New York.     | Talara.        | Ballast.        | 6,437 | 4,442                 |       |
| Californian         | 28               | 10 53 | 28             | 11 15 | 28                 | 19 23 | 28               | 19 23 | American.    | American-Hawaiian Line.            | 445 1   | 59 8  | 24 0              | Philadelphia. | Portland.      | General.        | 6,000 | 8,567                 | 6,020 |
| Hefron              | 28               | 2 50  | 28             | 11 40 | 28                 | 19 18 | 28               | 20 25 | American.    | Tampa-Herzog S. S. Co. (S. B.)     | 440 0   | 56 0  | 21 0              | Baltimore.    | Kobe.          | General.        | 9,652 | 8,319                 | 6,201 |
| Takotoyo Maru       | 28               | 13 03 | 29             | 6 10  | 29                 | 13 43 | 29               | 14 55 | Japanese.    | Nippon Yusen Kaisha.               | 445 0   | 58 0  | 28 0              | New York.     | Kobe.          | General.        | 8,303 | 7,506                 | 5,456 |
| Artigas             | 28               | 23 08 | 29             | 7 07  | 29                 | 14 43 | 29               | 22 51 | American.    | W. R. Smith.                       | 390 0   | 54 0  | 18 0              | Philadelphia. | Los Angeles.   | General.        | 9,301 | 6,904                 | 4,314 |
| Welsh City          | 28               | 14 17 | 29             | 10 30 | 29                 | 18 02 | 29               | 19 37 | British.     | N. Atl. & West. S. S. Co. (S. B.)  | 411 7   | 54 5  | 28 4              | Port Arthur.  | Manila.        | Case oil.       | 7,000 | 6,037                 | 5,133 |
| Santa Barbara       | 28               | 17 45 | 29             | 11 45 | 29                 | 19 23 | 29               | 20 49 | American.    | Grace Line.                        | 401 6   | 53 9  | 28 4              | Baltimore.    | Seattle.       | General, steel. | 8,661 | 6,739                 | 4,746 |
| Laura C. Hall       | 23               | 19 30 | 30             | 6 07  | 30                 | 13 10 | 30               | 18 55 | French.      | Pacific Metals Corp.               | 81 0    | 25 0  | 9 0               | Cristobal.    | Puenaventura.  | General.        | 33    | 132                   | 72    |
| Alsace              | 15               | 14 45 | 30             | 6 10  | 30                 | 16 10 | 30               | 18 55 | French.      | Valutierre & Co.                   | 192 3   | 40 3  | 14 0              | Marselles.    | Amatapa.       | Ballast.        | 33    | 132                   | 72    |
| Aysen               | 27               | 16 07 | 30             | 10 57 | 30                 | 17 27 | 30               | 19 30 | Chilean.     | Chilean Line.                      | 380 0   | 44 3  | 22 10             | Cristobal.    | Valparaiso.    | General.        | 575   | 4,535                 | 3,063 |
| Robin Good-fellow   | 21               | 18 30 | 31             | 11 10 | 30-19              | 34    | 30               | 21 06 | American.    | Seas Shipping Co.                  | 424 8   | 55 2  | 20 0              | New York.     | Seattle.       | General.        | 9,450 | 7,473                 | 5,530 |
| Edgemoor            | 21               | 19 10 | 31             | 6 05  | 31                 | 14 59 | 31               | 16 10 | American.    | United States Army.                | 490 6   | 54 2  | 20 2              | New York.     | Honolulu.      | Supplies, etc.  | 6,117 |                       |       |
| Scotia              | 30               | 6 12  | 31             | 6 30  | 31                 | 12 28 | 31               | 14 25 | American.    | United States Navy.                | 440 0   | 30 0  | 21 0              | Cristobal.    | Pape Mala.     | General.        | 1,664 | 5,926                 | 4,178 |
| Euador              | 30               | 21 10 | 31             | 8 37  | 31                 | 15 18 | 31               | 19 15 | American.    | Pacific Mail Steamship Co.         | 380 6   | 48 7  | 23 3              | Baltimore.    | San Francisco. | General.        | 3,669 | 5,726                 | 4,086 |
| Santa Teresa        | 30               | 10 57 | 31             | 8 50  | 31                 | 15 58 | 31               | 17 45 | American.    | Grace Line.                        | 380 2   | 51 6  | 27 0              | New York.     | Talcahuano.    | General.        | 3,800 | 3,460                 | 2,404 |
| Stanley Dollar      | 28               | 17 25 | 31             | 10 27 | 31                 | 19 33 | 31               | 17 50 | British.     | Dollar Steamship Co.               | 288 8   | 44 6  | 25 0              | New York.     | Los Angeles.   | Ballast.        | 908   | 6,021                 | 4,180 |
| Crenata             | 28               | 17 25 | 31             | 10 27 | 31                 | 19 33 | 31               | 17 50 | British.     | Anglo-Saxon Petroleum Co.          | 400 0   | 52 3  | 21 2              | Malta.        | San Francisco. | General.        | 2,069 | 5,112                 | 3,511 |
| Cauca               | 28               | 21 09 | 31             | 6 10  | 31                 | 12 53 | 31               | 17 45 | British.     | Pacific Steam Navigation Co.       | 246 0   | 35 0  | 17 0              | Cristobal.    | Champerico.    | General.        | 2,069 | 5,112                 | 3,511 |
| Cleveland           | 31               | 14 03 | 1              | 7 29  | 1                  | 13 57 | 1                | 15 09 | American.    | United States Navy.                | 308 0   | 40 0  | 17 3              | Cristobal.    | Balboa.        | General.        | 7,252 | 7,983                 | 5,882 |
| Apple Branch        | 1                | 15 38 | 1              | 11 43 | 1                  | 18 09 | 1                | 19 17 | British.     | F. & W. Ritson.                    | 370 0   | 51 6  | 20 0              | London.       | Valparaiso.    | General.        | 2,252 | 12,257                | 7,942 |
| Willolo             | 1                | 14 29 | 2              | 6 05  | 2                  | 14 09 | 2                | 15 15 | American.    | Williams Steamship Co.             | 431 0   | 57 7  | 27 0              | New York.     | Los Angeles.   | General.        | 2,252 | 12,257                | 7,942 |
| Oreoma              | 1                | 17 40 | 2              | 8 15  | 2                  | 15 35 | 2                | 19 43 | British.     | Pacific Steam Navigation Co.       | 511 6   | 62 0  | 25 10             | Liverpool.    | Valparaiso.    | General.        | 8,600 | 6,066                 | 4,507 |
| Nurtureton          | 2                | 6 20  | 2              | 10 25 | 2                  | 18 20 | 2                | 19 54 | British.     | West Hartlepool Steam Nav. Co.     | 415 0   | 55 0  | 27 4              | Baltimore.    | Yokohama.      | Steel.          | 6,350 | 6,243                 | 4,500 |
| Havana Maru         | 2                | 8 45  | 2              | 12 55 | 2                  | 20 54 | 2                | 22 30 | Japanese.    | Oaka Shosen Kaisha.                | 407 0   | 50 0  | 26 0              | New York.     | Singapore.     | General.        | 6,000 |                       |       |
| Gladiator           | 2                | 5 06  | 3              | 6 13  | 3                  | 13 03 | 3                | 14 30 | British.     | Harrison Line.                     | 435 0   | 52 0  | 24 9              | Liverpool.    | Los Angeles.   | General.        | 6,000 |                       |       |
| Julia Luckenbach    | 2                | 4 13  | 3              | 7 40  | 3                  | 15 14 | 3                | 16 30 | American.    | Luckenbach Line.                   | 436 0   | 57 0  | 28 0              | New York.     | San Francisco. | General.        | 7,847 | 8,543                 | 6,402 |
| Canada Maru         | 3                | 10 10 | 3              | 10 30 | 3                  | 17 43 | 3                | 19 09 | Japanese.    | Oaka Shosen Kaisha                 | 400 0   | 51 8  | 27 0              | New Orleans.  | Kobe.          | General.        | 5,094 | 5,999                 | 4,101 |
| Florence Luckenbach | 3                | 8 40  | 3              | 10 45 | 3                  | 18 16 | 3                | 19 19 | American.    | Luckenbach Line.                   | 401 8   | 52 0  | 24 11             | New Orleans.  | Los Angeles.   | General.        | 7,627 | 6,002                 | 4,621 |

\* Structural material and machinery

\* Cruiser.

\* Tug.

\* Transport.

\* Motor schooner.

\* Motor ship.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Northward            | 27 | 15.45 | 28 | 6.33  | 28 | 14.55 | 28 | 15.30 | Danish    | Peter Brown                          | 340.1 | 42.7 | 23.0 | Valparaiso    | Norfolk      | Nitrate, copper | 5,217  | 2,712  |
|----------------------|----|-------|----|-------|----|-------|----|-------|-----------|--------------------------------------|-------|------|------|---------------|--------------|-----------------|--------|--------|
| H. M. Storey         | 27 | 0.01  | 28 | 7.41  | 28 | 16.35 | 28 | 23.50 | American  | Standard Oil Co.                     | 500.0 | 68.2 | 28.3 | San Francisco | London       | Gasoline        | 14,000 | 11,224 |
| Lewis Luckenbach     | 27 | 23.30 | 28 | 8.51  | 28 | 16.07 | 28 | 16.07 | American  | Luckenbach Line                      | 496.0 | 68.2 | 21.0 | Tacoma        | Philadelphia | General         | 6,800  | 11,487 |
| Isaac                | 28 | 3.00  | 28 | 10.45 | 28 | 18.10 | 29 | 24.50 | British   | Royal Mail Steam Packet Co.          | 450.0 | 58.0 | 25.6 | Valparaiso    | New York     | General         | 3,734  | 9,151  |
| Edgar                | 28 | 6.30  | 28 | 11.09 | 28 | 19.05 | 29 | 2.50  | American  | Islandian Steamship Lines            | 395.5 | 55.0 | 24.0 | Bellingham    | Boston       | General         | 7,500  | 7,285  |
| Steel Voyager        | 28 | 7.45  | 28 | 11.52 | 28 | 19.25 | 3  | 20.63 | Norwegian | Camille Fitzen & Co.                 | 231.5 | 35.2 | 13.8 | Guayaquil     | New York     | General         | 296    | 1,471  |
| San Leonardo         | 28 | 3.50  | 29 | 7.38  | 29 | 14.25 | 29 | 20.53 | British   | Eagle Oil Transport Co.              | 400.8 | 54.2 | 19.0 | Cruz Grande   | Tampico      | Ballast         | 6,218  | 3,893  |
| Hattie Luckenbach    | 29 | 5.15  | 29 | 8.28  | 29 | 15.32 | 29 | 15.32 | American  | Luckenbach Line                      | 331.5 | 47.0 | 20.0 | Portland      | New Orleans  | General         | 3,400  | 4,808  |
| Teco                 | 29 | 6.00  | 29 | 9.20  | 29 | 16.16 | 30 | 19.57 | British   | Sheridan Steamship Co.               | 440.8 | 56.0 | 18.6 | Tocopilla     | Tampico      | Ballast         | 7,693  | 4,822  |
| Rebore               | 29 | 6.10  | 29 | 10.04 | 29 | 19.37 | 30 | 19.57 | American  | Ore Steamship Co.                    | 550.3 | 72.2 | 32.6 | Cruz Grande   | New York     | Iron ore        | 19,000 | 15,476 |
| Thorgerd             | 29 | 13.55 | 29 | 14.37 | 29 | 22.13 | 30 | 22.40 | Norwegian | Bjornstad                            | 251.0 | 43.8 | 21.0 | Corinto       | Chester, Pa. | Logs            | 2,500  | 2,705  |
| Bessener City        | 29 | 17.45 | 30 | 6.49  | 30 | 15.05 | 30 | 22.55 | American  | United States Steel Products Co.     | 424.2 | 56.2 | 27.0 | Holilo        | Cristobal    | Sugar           | 8,200  | 7,611  |
| Empire               | 30 | 11.15 | 30 | 11.29 | 30 | 17.12 | 30 | 17.12 | American  | W. G. Smith                          | 120.0 | 24.0 | 14.0 | Baica         | Tampico      | Ballast         | 302    | 63     |
| Tamini               | 30 | 11.15 | 30 | 11.58 | 30 | 19.10 | 31 | 24.10 | British   | Shaw, Saville & Albion Co.           | 477.8 | 61.1 | 25.6 | Auckland      | London       | General, frozen | 3,981  | 10,631 |
| Cleveland            | 30 | 14.40 | 31 | 6.51  | 31 | 14.05 | 1  | 7.25  | American  | United States Navy                   | 308.0 | 36.0 | 17.0 | Buenaventura  | Cristobal    | General         | 17     | 17     |
| Cauca                | 30 | 15.00 | 31 | 7.12  | 31 | 14.15 | 1  | 7.25  | Colombian | Colombian Government                 | 118.0 | 17.7 | 3.0  | Guayaquil     | Cristobal    | General         | 1,213  | 692    |
| Salvador             | 30 | 15.00 | 31 | 7.50  | 31 | 14.25 | 1  | 7.25  | British   | Pacific Steam Navigation Co.         | 225.0 | 35.4 | 14.4 | San Francisco | Cristobal    | General, lumber | 4,434  | 7,893  |
| Neponset             | 31 | 6.00  | 31 | 9.40  | 31 | 17.25 | 31 | 21.25 | American  | United States Shipping Board         | 434.3 | 57.7 | 22.0 | Honolulu      | New York     | Sugar           | 8,450  | 7,611  |
| Fairfield City       | 31 | 9.15  | 31 | 10.14 | 31 | 18.40 | 31 | 22.24 | American  | United States Steel Products Co.     | 424.2 | 56.2 | 28.0 | San Francisco | Stockholm    | Sugar           | 5,819  | 5,371  |
| Valparaiso           | 31 | 5.30  | 31 | 14.18 | 31 | 23.30 | 31 | 22.24 | Swedish   | Johnson Line                         | 397.0 | 51.3 | 24.6 | Valparaiso    | Tampico      | Ballast         | 6,232  | 4,273  |
| San Ubaldo           | 30 | 15.45 | 31 | 5.11  | 31 | 15.00 | 31 | 15.00 | British   | Eagle Oil Transport Co.              | 412.0 | 53.4 | 19.0 | Champerico    | Cristobal    | General         | 1,273  | 706    |
| Acajutla             | 1  | 2.10  | 1  | 7.30  | 1  | 13.55 | 1  | 13.55 | Peruvian  | Pacific Steam Navigation Co.         | 215.7 | 46.1 | 17.6 | Callao        | Cristobal    | General, soap   | 7      | 4,803  |
| Urubamba             | 2  | 3.50  | 2  | 8.12  | 2  | 14.25 | 2  | 16.28 | American  | Peruvian Line                        | 381.2 | 46.1 | 17.6 | Callao        | Cristobal    | General         | 5,000  | 7,755  |
| Henry S. Grove       | 2  | 6.00  | 2  | 8.25  | 2  | 15.31 | 3  | 3.20  | American  | Ath. Gulf & Pacific S. S. Co. (S.B.) | 404.6 | 54.0 | 23.6 | Portland      | New York     | General, lumber | 7,100  | 7,040  |
| Kentuckian           | 2  | 8.15  | 2  | 9.40  | 2  | 17.30 | 3  | 13.50 | British   | American-Hawaiian Line               | 414.5 | 53.6 | 25.6 | Seattle       | Liverpool    | General         | 7,100  | 7,040  |
| Santa Maria          | 2  | 13.25 | 3  | 6.34  | 3  | 13.50 | 3  | 13.50 | British   | Santa Maria Steamship Co.            | 400.0 | 50.3 | 24.6 | Liquique      | Tampico      | Ballast         | 8,746  | 5,979  |
| Dorset               | 2  | 20.04 | 3  | 7.54  | 3  | 15.20 | 4  | 6.15  | British   | Federal Steam Navigation Co.         | 400.0 | 58.0 | 22.6 | Wellington    | Southampton  | General         | 5,440  | 9,188  |
| Frederick Luckenbach | 3  | 4.34  | 3  | 8.35  | 3  | 15.55 | 3  | 19.18 | American  | Luckenbach Line                      | 317.5 | 40.2 | 25.0 | San Francisco | Mobile       | General         | 500    | 2,987  |
| Argosy               | 3  | 11.30 | 3  | 12.13 | 3  | 19.32 | 3  | 19.32 | American  | United States Shipping Board         | 390.0 | 54.2 | 15.0 | Talchuan      | New York     | Nitrate of soda | 7,443  | 6,203  |
| Erroll               | 3  | 13.50 | 3  | 14.55 | 3  | 21.44 | 3  | 23.12 | British   | Trinder Anderson                     | 335.0 | 47.0 | 21.0 | Sydney        | New York     | Nitrate of soda | 3,000  | 4,713  |

<sup>1</sup> Coast guard. <sup>2</sup> For orders.

<sup>3</sup> Wool, tallow, hides, fets, and sundries.

<sup>4</sup> Cocoa, coffee, platinum, and wool.

<sup>5</sup> Coffee, coco, hides, etc.

<sup>6</sup> Wheat, coffee, fruit, flour, etc.

<sup>7</sup> Wheat, coffee, fruit, flour, etc.

<sup>8</sup> Coffee, lumber, and general.

## PORT OF CRISTOBAL.

## \*ARRIVALS.

## \*DEPARTURES.

| Date.  | Vessel.   | Line.                        | From—                    | Date.  | Vessel.             | Line.                           | For—                   |
|--------|-----------|------------------------------|--------------------------|--------|---------------------|---------------------------------|------------------------|
| May 28 | Atenas    | United Fruit Co.             | New Orleans via Habana.  | May 29 | Atenas              | United Fruit Co.                | Bocas del Toro.        |
| May 29 | Heredia   | United Fruit Co.             | New Orleans              | May 29 | Gen. G. W. Goethals | Panama Railroad Steamship Line. | New York via Haiti.    |
| May 29 | Poesidon  | Royal Netherlands W. I. Mail | Puerto Barrios           | May 30 | Columb.             | New Orleans & S. A. S. Line.    | New Orleans.           |
| May 29 | Columbia  | New Orleans & S. A. S. Line  | New Orleans and wayports | May 30 | Albano              | La Voz Line                     | Genoa via wayports.    |
| May 30 | Calamares | United Fruit Co.             | New York via Habana.     | May 31 | Calamares           | United Fruit Co.                | New York via wayports. |

(Continued on page 550, column 2.)

## Financial Receipts and Disbursements, April, 1922.

BALBOA HEIGHTS, C. Z., May 31, 1922.

*The Honorable, the Secretary of War, Washington, D. C.*

SIR: Herewith is a report showing the commissary sales, financial receipts, and expenditures, and of the cash balance available in The Panama Canal appropriations for the month of April, 1922, as compared with the preceding month, and with the corresponding month of last year:

|                                                                                           | April, 1922.    | March, 1922.    | April, 1921.   |
|-------------------------------------------------------------------------------------------|-----------------|-----------------|----------------|
| Cash balance available for expenditures in Canal appropriations on last day of month..... | \$11,610,223.49 | \$11,741,940.27 | \$8,020,685.58 |
| Payments made from appropriations:                                                        |                 |                 |                |
| By paymaster on the Isthmus.....                                                          | 893,590.92      | 891,747.77      | 1,570,092.07   |
| By Disbursing Clerk, Washington, D. C.....                                                | 54,054.74       | 97,040.53       | 737,709.52     |
| To the Panama Railroad (for commissary books).....                                        | 177,321.61      | 173,358.01      | 307,802.49     |
| Collections on the Isthmus:                                                               |                 |                 |                |
| Repaid to appropriations.....                                                             | 724,527.71      | 513,416.00      | 1,031,281.31   |
| Commissary and other trust funds.....                                                     | 179,578.57      | 175,805.94      | 309,877.44     |
| Tolls.....                                                                                | 953,293.96      | 956,734.11      | 928,007.79     |
| Sales of water.....                                                                       | 2,874.90        | 32.75           | 14,430.50      |
| Postal receipts.....                                                                      | 9,131.16        | 10,069.52       | 10,617.87      |
| Licenses, taxes, court fees, fines, etc.....                                              | 2,791.90        | 3,009.00        | 4,381.83       |
| Sales of construction material and equipment.....                                         |                 | 3,091.00        |                |
| Total collections on Isthmus.....                                                         | 1,872,198.20    | 1,662,158.32    | 2,298,596.74   |
| Collections by the Disbursing Clerk, Washington, D. C.....                                | 25,228.17       | 10,785.91       | 127,292.71     |
| Deposits with the assistant treasurer, United States.....                                 | 41,266.25       | 57,300.00       | 49,700.00      |
| Canal Zone and miscellaneous funds:                                                       |                 |                 |                |
| Receipts:                                                                                 |                 |                 |                |
| Money order funds.....                                                                    | 135,890.32      | 129,898.22      | 158,912.94     |
| Trust funds.....                                                                          | 123.44          | 2,200.00        | 813.21         |
| Clubhouse funds.....                                                                      | 32,384.61       | 28,903.13       | 42,873.98      |
| Interest.....                                                                             | 1,364.13        | 1,176.43        | 5,181.05       |
| Total receipts.....                                                                       | 169,762.50      | 162,177.78      | 207,781.18     |
| Disbursements:                                                                            |                 |                 |                |
| Money order funds.....                                                                    | 106,500.00      | 130,950.00      | 221,953.00     |
| Trust funds.....                                                                          | 315.76          | 1,173.85        | 2,201.22       |
| Clubhouse funds.....                                                                      | 24,894.43       | 24,951.08       | 38,522.73      |
| Interest.....                                                                             | 719.64          | 442.78          | 769.86         |
| Postal savings.....                                                                       | 250.00          |                 |                |
| Total disbursements.....                                                                  | 132,679.83      | 157,517.71      | 263,446.81     |
| Pay roll on the Isthmus:                                                                  |                 |                 |                |
| Maintenance and operation.....                                                            | 596,232.81      | 627,578.80      | 1,036,037.67   |
| Sanitation.....                                                                           | 69,741.60       | 71,741.20       | 86,567.12      |
| Civil government.....                                                                     | 65,745.80       | 68,387.15       | 83,597.59      |
| Totals.....                                                                               | 731,720.21      | 767,707.15      | 1,206,202.38   |
| Requisitions for purchases in the United States.....                                      | 109,200.84      | 351,290.94      | 238,996.12     |
| Sales of commissary supplies:                                                             |                 |                 |                |
| To The Panama Canal.....                                                                  | 72,814.34       | 75,307.75       | 127,727.43     |
| To steamships other than those of the United States Government and Panama Railroad.....   | 33,681.25       | 31,294.62       | 53,432.69      |
| To the Panama Railroad, including its steamships and the Hotel Washington.....            | 17,510.44       | 18,719.85       | 20,056.27      |
| To the United States Government, including the Army and Navy.....                         | 84,270.46       | 84,125.92       | 134,007.10     |
| To individuals and companies through charge accounts.....                                 | 24,503.46       | 27,159.72       | 26,036.10      |
| To individuals purchasing coupons.....                                                    | 324,762.06      | 317,701.26      | 484,426.83     |
| Totals.....                                                                               | 557,542.01      | 554,309.02      | 845,686.42     |

Respectfully,

JAY J. MORROW, Governor.

## Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 3, 1922.

The Master of the steamship *Argosy* reports at 11 o'clock, a. m., to-day, a tree 70 feet long, with large branches attached, floating 2½ miles east of Taboguilla Island, Panama Bay.

JAY J. MORROW,  
Governor.

### Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended June 5:

Steamship *Salvador*, repair Nos. 1 and 2 'tween deck hatches; repair forepart of after deck house; calk forward well deck; supply and fit new cleats for stanchions on accommodation ladder; renew accommodation ladder platform; *Acajulla*, fit new leather straps to the windows of captain's room; furnish strum plate for engine room bilge manifold; patch and re-rivet to bulkhead steam pipe casing leading to forecandle head; repair door frames for sailors' and firemen's forecandle and water closets; manufacture 1 scum valve and stem; *Advance*, furnish lumber as directed; *Bessemer City*, repair 4 copper coils; *Heredia*, make 4 piston rings for air pump; tug *Tavernilla*, miscellaneous repairs as directed by master; steamships *Orcoma*, manufacture pipe for feed pump; *Parismina*, clear out drains, etc.; *Panama*, reforge davit crank handle for No. 7 lifeboat; cut off at top stem and sternpost on Nos. 5 and 7 lifeboats to fit boat tackle; refasten scupper lip on shell starboard side, after end of saloon; make new stem for valve on brine line; renew bales on 2 ash buckets; *Jamaica*, repair 2 sanitary pipes.

### Treaty Between the United States and Colombia.

*By the President of the United States of America—A Proclamation:*<sup>1</sup>

Whereas a Treaty between the United States of America and the Republic of Colombia, for the settlement of their differences arising out of the events which took place on the Isthmus of Panama in November, 1903, was concluded by their respective Plenipotentiaries at Bogotá on the sixth day of April in the year one thousand nine hundred and fourteen, which Treaty, in the English and Spanish languages,<sup>2</sup> and as amended by the Senate of the United States, is word for word as follows:

Treaty between the United States of America and the Republic of Colombia for the settlement of their differences arising out of the events which took place on the Isthmus of Panama in November, 1903.

The United States of America and the Republic of Colombia, being desirous to remove all the misunderstandings growing out of the political events in Panama in November, 1903; to restore the cordial friendship that formerly characterized the relations between the two countries, and also to define and regulate their rights and interests in respect of the interoceanic canal which the Government of the United States has constructed across the Isthmus of Panama, have resolved for this purpose to conclude a Treaty and have accordingly appointed as their Plenipotentiaries:

His Excellency the President of the United States of America, Thaddeus Austin Thomson, Envoy Extraordinary and Minister Plenipotentiary of the United States of America to the Government of the Republic of Colombia; and

His Excellency the President of the Republic of Colombia, Francisco José Urrutia, Minister for Foreign Affairs; Marco Fidel Suárez, First Designate to exercise the Executive Power; Nicolás Esguerra, Ex-Minister of State; José María González Valencia, Senator; Rafael Uribe Uribe, Senator; and Antonio José Uribe, President of the House of Representatives;

Who, after communicating to each other their respective full powers, which were found to be in due and proper form, have agreed upon the following:

#### ARTICLE I.

The Republic of Colombia shall enjoy the following rights in respect to the interoceanic Canal and the Panama Railway, the title to which is now vested entirely and absolutely in the United States of America, without any incumbrances or indemnities whatever.

1. The Republic of Colombia shall be at liberty at all times to transport through the interoceanic Canal its troops, materials of war and ships of war, without paying any charges to the United States.

2. The products of the soil and industry of Colombia passing through the Canal, as well as the Colombian mails, shall be exempt from any charge or duty other than those to which the products and mails of the United States may be subject. The products of the soil and industry of Colombia, such as cattle, salt and provisions, shall be admitted to entry in the Canal Zone, and likewise in the islands and mainland occupied or which may be occupied by the United States as auxiliary and accessory thereto, without paying other duties or charges than those payable by similar products of the United States.

<sup>1</sup> Published as Panama Canal circular No. 601-130.

<sup>2</sup> The original proclamation also contains the Spanish version which has been omitted from this reprint.



3. Colombian citizens crossing the Canal Zone shall, upon production of proper proof of their nationality, be exempt from every toll, tax or duty to which citizens of the United States are not subject.

4. Whenever traffic by the Canal is interrupted or whenever it shall be necessary for any other reason to use the railway, the troops, materials of war, products and mails of the Republic of Colombia, as above mentioned, shall be transported on the Railway between Ancon and Cristobal or on any other Railway substituted therefor, paying only the same charges and duties as are imposed upon the troops, materials of war, products and mails of the United States. The officers, agents and employees of the Government of Colombia shall, upon production of proper proof of their official character or their employment, also be entitled to passage on the said Railway on the same terms as officers, agents and employees of the Government of the United States.

5. Coal, petroleum and sea salt, being the products of Colombia, for Colombian consumption passing from the Atlantic coast of Colombia to any Colombian port on the Pacific coast, and vice-versa, shall, whenever traffic by the Canal is interrupted, be transported over the aforesaid Railway free of any charge except the actual cost of handling and transportation, which shall not in any case exceed one half of the ordinary freight charges levied upon similar products of the United States passing over the Railway and in transit from one port to another of the United States.

#### ARTICLE II.

The Government of the United States of America agrees to pay at the City of Washington to the Republic of Colombia the sum of twenty-five million dollars, gold, United States money, as follows: The sum of five million dollars shall be paid within six months after the exchange of ratifications of the present treaty, and reckoning from the date of that payment, the remaining twenty million dollars shall be paid in four annual installments of five million dollars each.

#### ARTICLE III.

The Republic of Colombia recognizes Panama as an independent nation and taking as a basis the Colombian Law of June 9, 1855, agrees that the boundary shall be the following: From Cape Tiburón to the headwaters of the Rio de la Miel and following the mountain chain by the ridge of Gandi to the Sierra de Chugargun and that of Mali going down by the ridges of Nigue to the heights of Aspave and from thence to a point on the Pacific half way between Cocalito and La Ardita.

In consideration of this recognition, the Government of the United States will, immediately after the exchange of the ratifications of the present Treaty, take the necessary steps in order to obtain from the Government of Panama the despatch of a duly accredited agent to negotiate and conclude with the Government of Colombia a Treaty of Peace and Friendship, with a view to bring about both the establishment of regular diplomatic relations between Colombia and Panama and the adjustment of all questions of pecuniary liability as between the two countries, in accordance with recognized principles of law and precedents.

#### ARTICLE IV.

The present Treaty shall be approved and ratified by the High Contracting Parties in conformity with their respective laws, and the ratifications thereof shall be exchanged in the city of Bogotá, as soon as may be possible.

In faith whereof, the said Plenipotentiaries have signed the present Treaty in duplicate and have hereunto affixed their respective seals.

Done at the city of Bogotá, the sixth day of April in the year of our Lord nineteen hundred and fourteen.

[SEAL.]  
[SEAL.]  
[SEAL.]  
[SEAL.]  
[SEAL.]  
[SEAL.]  
[SEAL.]

THADDEUS AUSTIN THOMSON  
FRANCISCO JOSÉ URRUTIA  
MARCO FIDEL SUÁREZ  
NICOLÁS ESGUERRA  
JOSÉ M. GONZÁLEZ VALENCIA  
RAFAEL URIBE URIBE  
ANTONIO JOSÉ URIBE

And whereas the advice and consent of the Senate of the United States to the ratification of the said Treaty was given also with the "understanding, to be made a part of such treaty and ratification, that the provisions of section 1 of Article 1 of the treaty granting to the Republic of Colombia free passage through the Panama Canal for its troops, materials of war and ships of war, shall not apply in case of war between the Republic of Colombia and any other country";



And whereas the said Treaty as amended by the Senate and the above recited understanding of the Senate made a part of such Treaty have been duly ratified on both parts, and the ratifications of the two Governments were exchanged at Bogotá, on the first day of March, one thousand nine hundred and twenty-two;

Now, therefore, be it known that I, Warren G. Harding, President of the United States of America, have caused the said Treaty, as amended, and the said understanding, made a part thereof, to be made public, to the end that the same and every article and clause thereof may be observed and fulfilled with good faith by the United States and the citizens thereof.

In Testimony whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington, this thirtieth day of March, in the year of our [SEAL.] Lord one thousand nine hundred and twenty-two, and of the independence of the United States of America the one hundred and forty-sixth.

WARREN G. HARDING.

By the President:

CHARLES E. HUGHES, *Secretary of State.*

### PROTOCOL OF EXCHANGE.

The undersigned Plenipotentiaries having met for the purpose of exchanging the ratifications of the Treaty signed at Bogotá, on April 6, 1914, between the United States of America and Colombia, providing for the settlement of differences arising out of the events which took place on the Isthmus of Panama in November, 1903, and the ratifications of the Treaty aforesaid having been carefully compared and found exactly conformable to each other, the exchange took place this day in the usual form.

With reference to this exchange the following statement is incorporated in the present Protocol in accordance with instructions received:

1. In conformity with the final Resolution of the Senate of the United States in giving its consent to the ratification of the Treaty in question, the stipulation contained in the first clause of Article one by which there is ceded to the Republic of Colombia free passage of its troops, materials of war and ships of war through the Panama Canal, shall not be applicable in case of a state of war between the Republic of Colombia and any other country.

2. The said final Resolution of the Senate of the United States signifies, as the Secretary of State in effect stated in the note which he addressed to the Colombian Legation in Washington on the 3rd day of October, 1921, that the Republic of Colombia will not have the right of passage, free of tolls, for its troops, materials of war and ships of war, in case of war between Colombia and some other country, and consequently, the Republic of Colombia will be placed, when at war with another country, on the same footing as any other nation under similar conditions, as provided in the Hay-Pauncefote Treaty concluded in 1901; and that, therefore, the Republic of Colombia will not by operation of the declaration of the Senate of the United States above mentioned, be placed under any disadvantage as compared with the other belligerent or belligerents, in the Panama Canal, in case of war between Colombia and some other nation or nations. With this understanding the said Resolution has been accepted by the Colombian Congress in accordance with the dispositions contained in Article two of Law fifty-six of 1921, "by which is modified Law number fourteen of 1914" approving the Treaty.

IN WITNESS WHEREOF, they have signed the present Protocol of Exchange and have affixed their seals thereto.

DONE at Bogotá, this first day of March, one thousand nine hundred and twenty-two.

[SEAL.]  
[SEAL.]

HOFFMAN PHILIP  
ANTONIO JOSÉ URIBE

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending June 3, 1922.

| Name of vessel.    | Line or charterer.                     | Arrived.    | Departed.   | Cargo—     |        |
|--------------------|----------------------------------------|-------------|-------------|------------|--------|
|                    |                                        |             |             | Discharged | Laded. |
|                    |                                        |             |             | Tons.      | Tons.  |
| Remus.....         | Latin-American Line.....               | May 28..... | May 31..... | 700        | 623    |
| Laura C. Hall..... | Pacific Metals Transportation Co.....  | May 30..... | May 30..... |            | 45     |
| Ecuador.....       | Pacific Mail Steamship Co.....         | May 31..... | May 31..... |            | 14     |
| Hwab Ping.....     | Chinese Government.....                | May 31..... | June 2..... | 382        |        |
| Acajutla.....      | Pacific Steam Navigation Co.....       | June 1..... | June 1..... | 2          |        |
| Cauca.....         | Pacific Steam Navigation Co.....       | June 1..... | June 1..... |            | 35     |
| Hoboken.....       | Erie Basin Towing and Hoisting Co..... | June 2..... |             | 2,000      |        |

### Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity, as fast as the ships can take it. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

### Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

### Typewriters For Sale.

The Supply Department has on sale a limited number of Underwood typewriters, second hand, models 4 and 5. Prices range from \$20 to \$35. Inspection can be made by applying to Storekeeper, Supply Department, Administration Building, Balboa Heights.

### Scrap Burlap Bagging.

The Supply Department has on hand, available for sale, at the general storehouse, Balboa, a large quantity of scrap burlap bagging included in which are a quantity of clean but torn burlap bags.

This material is suitable for packing furniture, etc., and is offered at a price of 3 cents per pound put up in bales averaging 250 pounds each, or in smaller quantities if desired.

Arrangements for purchase should be made direct with the General Storekeeper, Balboa, C. Z.

### Sale of Cattle.

Grade Holstein bull calves 1 to 3 months old from registered sires. Also grade Hereford and Durham bulls and heifers 6 months to 2 years old. Sales will be made upon first satisfactory offer. For further information inquire Superintendent, Cattle Industry, Room 269, Administration Building, Balboa Heights.

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 545.

PORT OF CRISTOBAL—continued.

| *ARRIVALS.      |            |                                 |                        | *DEPARTURES. |             |                               |                            |
|-----------------|------------|---------------------------------|------------------------|--------------|-------------|-------------------------------|----------------------------|
| Date.           | Vessel.    | Line.                           | From—                  | Date.        | Vessel.     | Line.                         | For—                       |
| May 31          | Tivies.    | United Fruit Co.                | Colombian ports.       | May 31       | Posidon.    | Royal Netherlands W. I. Mail. | Kingston.                  |
| May 31          | Metapan.   | United Fruit Co.                | New York via Kingston. | June 1       | Heredia.    | United Fruit Co.              | New Orleans and way-ports. |
| June 1          | Atenas.    | United Fruit Co.                | Bocas del Toro.        | June 1       | Tivies.     | United Fruit Co.              | New York via Kingston.     |
| June 2          | Panama.    | Panama Railroad Steamship Line. | New York via Haiti.    | June 1       | Atenas.     | United Fruit Co.              | New Orleans.               |
|                 |            |                                 |                        | June 1       | Metapan.    | United Fruit Co.              | New York via wayports.     |
| PORT OF BALBOA. |            |                                 |                        |              |             |                               |                            |
| May 28          | Remus.     | Latin American Line.            | Tientsin.              | May 31       | Remus.      | Latin American Line.          | San Francisco.             |
| May 31          | Hwah Ping. | Chinese Government.             | Hankow.                | June 2       | Hwah Ping.  | Chinese Government.           | Iniquique.                 |
| May 31          | Guardian.  | All America Cables, Inc.        | Cebu.                  | June 2       | Lady Sybil. | International Petroleum Co.   | Talara.                    |

\*Other than ships passing through the Canal.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., June 14, 1922.

No. 44.

## Refrigerator Steamship Service from North Pacific Coast to New York and Boston.

The *Fisheries Service Bulletin*, issued by the Bureau of Fisheries, Department of Commerce of the United States, published under the above heading the following article in its issue of March 1:

H. F. Taylor, of the division of fishery industries, recently visited and inspected at the wharf in New York City the steamship *Neponset*, a large refrigerator ship of the Elder Steel Steamship Company and a sister to the steamer *Deerfield*, which landed a cargo of frozen fish from Seattle via the Panama Canal in January. The *Neponset* docked February 22 with a cargo of frozen fish, mostly salmon, steelheads, halibut, mild-cured salmon, with other perishable freight, including apples, lemons, etc., this landing representing the second trip made in this newly instituted trade.

The *Neponset* (and also the sister ship *Deerfield*) is of 7,622 gross register, or 11,500 deadweight tonnage, and 410,000 cubic feet capacity, all insulated with cork and mineral wool. She is 450 feet long over all with 57-foot beam. She can make 12 knots, and has an average of all trips to date of 10½ knots, the trip from Seattle to New York requiring about a month, including stops. She can carry about 6,000 tons of frozen fish. Fuel oil is used, with 4 boilers, 1 of which is sufficient to operate the refrigerating machinery.

The vessel's refrigerating equipment consists of three 80-ton single-acting carbon dioxide compressors, direct-connected, double expansion steam driven. The condensers are of copper tubes submerged in sea-water tanks. The brine cooler evaporators are identical with the condensers, except that iron pipe is used instead of copper. Circulation of calcium chloride brine is provided in such a way that each section of coil in each room is independent and can be operated and controlled from outside the holds, and each section has its own thermometer. The holds are piped for brine overhead and on sides, it being possible to maintain a temperature of from — 20° to, + 80° F. Temperature at the time of visit was about 12° F. The weight of the refrigerating machinery, insulation, etc., is about 1,700 tons. The fish cargo was all boxed, and appeared to be in first-class condition, the holds being cold, dark, and dry. The fish, so far as examined, showed no drying or rust.

The freight charges on fish from Seattle to New York are 1½ cents per pound, or \$35 per ton, plus certain charges which bring the total to \$37.20 per ton. Corresponding railroad charges between the same points, including icing en route, are said to be \$57.83, which, if correct, shows an apparent saving of \$20.63 by steamer transportation. The disadvantage is, of course, in the longer time of delivery, which must be considered in connection with the very safe preservation en route. Transportation at reasonable rates is a matter of acute interest to the fisheries at present, and for that reason the inauguration of this new service is timely and important.

These vessels are prepared to take cargoes not only from Seattle, but from any other Pacific port offering sufficient cargo. This fact is of importance to localities like Ketchikan without adequate railroad facilities.

In the records of traffic through the Canal, shipments of frozen fish have been classified, so far, with miscellaneous cold storage shipments.

An inquiry was made by the Canal to check the accuracy of the figures of \$57.83 as the cost per ton for shipment by railroad. One railroad quoted a carload rate of \$2.50 per 100 pounds. On the basis of a ton of 2,000 pounds this would be \$50 a ton; for a ton of 2,240 pounds, \$56. The time for delivery by railroad is quoted as about 15 days.



**MOVEMENTS OF OCEAN VESSELS.**  
*Week ending at midnight, June 10, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.           | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Nationality. | Line.                          | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.            |       | Panama Canal tonnage. |       |
|-----------------|------------------|-------|----------------|-------|--------------------|-------|--------------|--------------------------------|---------|-------|-------------------|---------------|----------------|-------------------|-------|-----------------------|-------|
|                 | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. |              |                                |         |       |                   |               |                | Nature.           | Tons. | Gross.                | Net.  |
| Advance         | 27               | 12 20 | 4              | 6 08  | 4                  | 12 29 | American.    | Panama Railroad Steamship Line | 295.0   | 38.5  | 16.8              | Pto. Colombia | Buenaventura.  | General.          | 64    | 2,947                 | 2,113 |
| Argyll          | 3                | 19 19 | 4              | 6 15  | 4                  | 13 57 | French.      | Compagnie de Boleo             | 320.2   | 40.7  | 24.3              | Tampico.      | Santa Rosalia. | Cruide oil.       | 3,000 | 3,141                 | 2,096 |
| Eden            | 3                | 19 55 | 4              | 7 15  | 4                  | 14 57 | American.    | United States Army (S. B.)     | 409.6   | 54.2  | 23.6              | New York.     | Honolulu.      | Military supplies | 3,985 | 7,486                 | 5,747 |
| Abrolho.        | 3                | 22 35 | 4              | 7 55  | 4                  | 15 33 | British.     | Imperial Oil Co.               | 463.3   | 60.0  | 16.0              | Montreal.     | Tallara.       | Ballast.          | 6,000 | 8,491                 | 6,096 |
| Eagle           | 4                | 6 10  | 4              | 8 33  | 4                  | 16 00 | American.    | Standard Oil Co.               | 410.0   | 56.0  | 23.0              | New York.     | Los Angeles.   | General.          | 6,000 | 8,243                 | 6,268 |
| Jamaica         | 1                | 22 48 | 4              | 9 15  | 4                  | 17 10 | British.     | Pacific Steam Navigation Co.   | 220.0   | 40.4  | 13.7              | Santa Marta.  | Tumaco.        | General, salt.    | 606   | 1,187                 | 622   |
| Port McQuarie   | 4                | 9 55  | 4              | 10 54 | 4                  | 17 29 | British.     | Commonwealth and Dom. Line.    | 426.0   | 54.0  | 25.0              | New York.     | Brisbane.      | General.          | 3,107 | 7,553                 | 5,405 |
| Arawa           | 3                | 22 15 | 4              | 11 44 | 4                  | 18 39 | British.     | Shaw, Saville & Albion Co.     | 459.5   | 60.5  | 26.4              | London.       | Wellington.    | General.          | 3,623 | 10,035                | 7,504 |
| Patuxent        | 5                | 6 00  | 5              | 13 28 | 4                  | 13 50 | American.    | United States Navy             | 406.8   | 51.1  | 20.0              | Cristobal.    | Balboa.        | General.          | 2,745 | 5,988                 | 4,226 |
| American        | 5                | 12 36 | 5              | 6 15  | 5                  | 13 34 | American.    | American-Hawaiian Line         | 251.0   | 43.6  | 26.0              | Boston.       | Portland.      | General.          | 3,420 | 2,823                 | 1,730 |
| Santa Barbara   | 5                | 12 40 | 6              | 6 20  | 6                  | 14 42 | American.    | American and Cuban S. S. Line. | 283.0   | 41.0  | 19.0              | Baltimore.    | Los Angeles.   | General.          | 2,140 | 2,381                 | 1,483 |
| Italia          | 5                | 17 30 | 6              | 8 40  | 6                  | 15 31 | Swedish.     | Swedish Lloyd's.               | 381.0   | 46.0  | 18.2              | New Orleans.  | Talcahuano.    | General.          | 296   | 4,803                 | 2,951 |
| Urubamba        | 2                | 14 52 | 6              | 11 06 | 6                  | 17 39 | Peruvian.    | Peruvian Line                  | 468.0   | 53.6  | 29.4              | Cristobal.    | Callao.        | General.          | 2,353 | 8,291                 | 5,863 |
| Barge No. 32.   | 6                | 14 15 | 7              | 6 18  | 7                  | 13 29 | American.    | United States Navy             | 375.3   | 52.0  | 24.10             | London.       | Lyttleton.     | General.          | 6,274 | 5,177                 | 3,877 |
| Port Chalmers   | 6                | 14 15 | 7              | 7 13  | 7                  | 14 10 | British.     | Commonwealth and Dom. Line.    | 420.0   | 54.0  | 25.0              | New York.     | Manila.        | Gen. kerosene.    | 5,500 | 5,577                 | 4,225 |
| Sussex          | 6                | 18 16 | 7              | 8 37  | 7                  | 15 31 | British.     | Barber Line                    | 370.0   | 53.1  | 24.7              | New York.     | Australia.     | General.          | 6,362 | 7,602                 | 5,312 |
| Suzuga          | 6                | 15 37 | 7              | 9 25  | 7                  | 16 24 | American.    | Federal Steam Navigation Co.   | 435.0   | 55.0  | 23.0              | Mobile.       | Sun Francisco. | Sulphur           | 8,318 | 7,296                 | 5,445 |
| Munaires        | 6                | 16 10 | 7              | 10 13 | 7                  | 17 15 | American.    | Musson Steamship Line.         | 500.1   | 63.1  | 23.0              | Port Arthur.  | Balboa.        | Fuel oil.         | 1,247 | 10,907                | 6,300 |
| Dillwyn         | 7                | 10 48 | 7              | 11 15 | 7                  | 18 39 | Norwegian.   | Columbus Shipping Co. (S. B.)  | 215.7   | 35.5  | 13.11             | New York.     | Honolulu.      | General.          | 211   | 1,213                 | 692   |
| Handicap        | 7                | 14 38 | 7              | 15 09 | 7                  | 21 00 | Norwegian.   | Bruusgaard Kosterud            | 215.7   | 35.5  | 13.11             | New York.     | Guayaquil.     | General.          | 2,400 | 3,323                 | 2,485 |
| H. F. Alexander | 1                | 13 55 | 8              | 6 13  | 8                  | 12 40 | British.     | Pacific Steam Navigation Co.   | 315.1   | 46.2  | 26.2              | New York.     | Valparaiso.    | General, coal.    | 8,109 | 6,478                 | 4,739 |
| Acajutla        | 2                | 14 25 | 8              | 6 14  | 8                  | 12 44 | British.     | Pacific Steam Navigation Co.   | 385.0   | 50.0  | 12.0              | Norfolk.      | Honolulu.      | General.          | 4,056 | 3,427                 | 2,427 |
| Salvador        | 2                | 14 25 | 8              | 6 14  | 8                  | 12 44 | Danish.      | Norden Steamship Co.           | 423.8   | 55.2  | 28.0              | New York.     | Guamas.        | Ballast.          | 9,418 | 7,401                 | 5,529 |
| Nordamerica     | 8                | 12 08 | 8              | 7 35  | 8                  | 13 25 | American.    | Argonaut Steamship Co.         | 420.0   | 47.0  | 21.3              | Cristobal.    | Balboa.        | General.          | 4,293 | 5,904                 | 4,321 |
| Pacific         | 8                | 4 21  | 8              | 10 50 | 8                  | 17 41 | American.    | Navigra Sota & Aznar           | 384.8   | 51.9  | 23.6              | New York.     | Melbourne.     | General.          | 1,330 | 3,173                 | 2,163 |
| Igoitz Mend.    | 8                | 17 46 | 9              | 6 25  | 9                  | 13 48 | American.    | Sea Shipping Co.               | 326.0   | 38.2  | 17.3              | New York.     | San Francisco. | General.          | 6,000 | 8,568                 | 6,096 |
| Robin Adair.    | 8                | 11 45 | 9              | 7 05  | 9                  | 15 40 | American.    | United States Navy             | 425.0   | 57.3  | 26.0              | Boston.       | San Francisco. | General.          | 6,354 | 7,470                 | 5,041 |
| Birmingham      | 8                | 15 55 | 9              | 9 00  | 9                  | 15 43 | American.    | U. S. & A. Line (S. B.)        | 399.3   | 52.2  | 26.3              | New York.     | Shanghai.      | General.          | 3,035 | 2,597                 | 1,714 |
| Eastern Moon.   | 9                | 11 00 | 9              | 11 20 | 9                  | 18 03 | American.    | Pacific Mail Steamship Co.     | 267.0   | 46.0  | 21.1              | Mobile.       | San Francisco. | Steel pipes.      |       |                       |       |
| Eastport.       | 9                | 11 55 | 9              | 11 58 | 9                  | 19 20 | American.    | Ellerman Hall Line             | 400.0   | 52.0  | 27.5              |               |                |                   |       |                       |       |
| Romeo           | 9                | 19 30 | 10             | 6 24  | 10                 | 14 02 | American.    |                                |         |       |                   |               |                |                   |       |                       |       |
| Edgar F.        | 9                | 19 00 | 10             | 7 26  | 10                 | 14 49 | American.    | Luckenbach Line.               | 425.0   | 57.3  | 26.0              | Boston.       | San Francisco. | General.          | 6,000 | 8,568                 | 6,096 |
| Lukenbach.      | 9                | 23 09 | 10             | 10 42 | 10                 | 17 46 | British.     | Bank Line, Ltd.                | 399.3   | 52.2  | 26.3              | New York.     | Shanghai.      | General.          | 6,354 | 7,470                 | 5,041 |
| Haleric         | 9                | 20 55 | 10             | 11 55 | 10                 | 18 55 | British.     | H. K. Goodwin.                 | 267.0   | 46.0  | 21.1              | Mobile.       | San Francisco. | Steel pipes.      |       |                       |       |
| Nika            | 9                | 20 55 | 10             | 11 55 | 10                 | 18 55 | American.    |                                |         |       |                   |               |                |                   |       |                       |       |

\* Tug.

\* Motor ship.

\* Cruiser.

\* Transport.



THROUGH THE CANAL—PACIFIC TO ATLANTIC.

[illegible]

s Navy tug.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| *ARRIVALS. |                   |                                 |                            | *DEPARTURES |                   |                                 |                                 |
|------------|-------------------|---------------------------------|----------------------------|-------------|-------------------|---------------------------------|---------------------------------|
| Date.      | Vessel.           | Line.                           | From—                      | Date.       | Vessel.           | Line.                           | For—                            |
| June 3     | Anna              | P. Johannessen                  | New York.                  | June 4      | San Benito        | United Fruit Co.                | Boston.                         |
| June 4     | San Benito        | United Fruit Co.                | Boston via Limon.          | June 5      | Anna              | P. Johannessen                  | Kingston.                       |
| June 4     | Abangarez.        | United Fruit Co.                | New Orleans via Habana.    | June 6      | Van Rensselaer    | Port Limon.                     | Kingston.                       |
| June 5     | Parismina         | United Fruit Co.                | New Orleans.               | June 7      | Pastores          | New York via waypoints.         | New York via waypoints.         |
| June 5     | Van Rensselaer    | Royal Netherlands W. I. Mail    | Amsterdam via waypoints.   | June 7      | Abangarez.        | United Fruit Co.                | New Orleans via Bocas del Toro. |
| June 6     | Pastores          | United Fruit Co.                | New York via Habana.       | June 7      | San Blas          | United Fruit Co.                | Boston via Limon.               |
| June 6     | Puerto Rico       | French Line.                    | St. Nazaire and waypoints. | June 8      | Parismina         | United Fruit Co.                | New Orleans via waypoints.      |
| June 7     | Conde de Churrua. | Societe Commercial de Oriental. | Tampico.                   | June 8      | Puerto Rico       | French Line.                    | St. Nazaire and waypoints.      |
| June 8     | San Blas          | United Fruit Co.                | Boston via Habana.         | June 9      | Conde de Churrua. | Societe Commercial de Oriental. | Tampico.                        |
| June 8     | Cristobal         | Panama Railroad Steamship Line. | Norfolk.                   | June 9      | Panama.           | Panama Railroad Steamship Line. | Kingston.                       |
| June 9     | Van Rensselaer    | Royal Netherlands W. I. Mail.   | Port Limon.                | June 10     | Camito            | Elders & Fyffes Ltd.            | New York via Haiti.             |
| June 9     | Montserrat        | Spanish Line.                   | Barcelona via waypoints.   | June 10     | Van Rensselaer    | Royal Netherlands W. I. Mail.   | Kingston.                       |
| June 10    | Camito            | Elders & Fyffes Ltd.            | Port Limon.                | June 10     |                   |                                 | Amsterdam via waypoints.        |

\* Other than vessels passing through the Canal.

# Commercial Traffic Through the Panama Canal in May, 1922, by Trade Routes.

ATLANTIC TO PACIFIC.

| Route and registry.                                                | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.      | Tons of cargo.    |
|--------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
|                                                                    |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |                   |
| <i>United States to Far East:</i>                                  |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| United States.....                                                 | 12              | 51,743                    | 66,681            | 82,205            | 50,990          | \$64,678.75 | 108,793           |
| British.....                                                       | 10              | 44,749                    | 54,462            | 63,438            | 40,260          | 55,764.10   | 77,416            |
| Japanese.....                                                      | 5               | 21,085                    | 24,488            | 31,569            | 20,739          | 26,190.00   | 38,139            |
| Norwegian.....                                                     | 4               | 16,349                    | 18,550            | 23,892            | 14,928          | 20,238.65   | 31,881            |
| Dutch.....                                                         | 1               | 4,366                     | 5,254             | 6,915             | 4,393           | 5,457.50    | 8,671             |
| Totals.....                                                        | 32              | 138,292                   | 169,435           | 208,019           | 131,310         | 172,329.00  | 264,900           |
| <i>United States coastwise:</i>                                    |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                 | 32              | 123,011                   | 152,260           | 189,428           | 121,945         | 153,626.80  | 173,128           |
| <i>East coast of United States to west coast of South America:</i> |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                 | 7               | 28,400                    | 34,866            | 45,653            | 28,388          | 28,174.92   | 16,587            |
| British.....                                                       | 4               | 15,285                    | 17,969            | 24,004            | 14,782          | 17,011.22   | 10,208            |
| Swedish.....                                                       | 1               | 1,340                     | 1,399             | 2,257             | 1,583           | 1,675.09    | 1,495             |
| Norwegian.....                                                     | 1               | 881                       | 1,479             | 1,493             | 873             | 1,101.25    | 256               |
| Totals.....                                                        | 13              | 45,906                    | 55,713            | 73,407            | 45,626          | 47,962.39   | 28,546            |
| <i>From Europe to west coast of South America:</i>                 |                 |                           |                   |                   |                 |             |                   |
| British.....                                                       | 4               | 14,299                    | 17,543            | 22,137            | 14,251          | 17,873.75   | 23,807            |
| Italian.....                                                       | 2               | 6,057                     | 8,039             | 10,536            | 5,122           | 7,571.25    | 1,815             |
| German.....                                                        | 2               | 5,214                     | 8,021             | 8,798             | 5,150           | 6,517.50    | 6,246             |
| Dutch.....                                                         | 2               | 4,236                     | 6,927             | 6,832             | 4,218           | 5,295.00    | 4,884             |
| French.....                                                        | 1               | 3,566                     | 4,081             | 5,681             | 3,600           | 4,457.50    | 795               |
| Totals.....                                                        | 11              | 33,372                    | 44,611            | 53,984            | 33,341          | 41,715.00   | 37,547            |
| <i>From Cristobal, C. Z., to west coast of South America:</i>      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                       | 4               | 1,325                     | 1,720             | 2,391             | 1,465           | 1,656.25    | 900               |
| Chilean.....                                                       | 3               | 4,883                     | 8,406             | 10,341            | 6,193           | 6,103.75    | 1,189             |
| Peruvian.....                                                      | 3               | 3,708                     | 7,750             | 12,325            | 6,031           | 4,635.00    | 1,013             |
| Totals.....                                                        | 10              | 9,916                     | 17,876            | 25,057            | 13,689          | 12,395.00   | 3,132             |
| <i>From Mexico to west coast of South America:</i>                 |                 |                           |                   |                   |                 |             |                   |
| British.....                                                       | 5               | 20,927                    | 23,979            | 34,707            | 20,758          | 26,158.75   | 44,109            |
| <i>From Europe to west coast of United States:</i>                 |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                 | 1               | 4,426                     | 5,938             | 7,252             | 4,425           | 5,532.50    | 10,475            |
| Danish.....                                                        | 1               | 4,207                     | 5,286             | 5,296             | 3,325           | 5,258.75    | 4,851             |
| British.....                                                       | 1               | 3,713                     | 4,180             | 5,563             | 3,549           | 3,009.60    | .....             |
| Norwegian.....                                                     | 1               | 3,046                     | 3,886             | 4,894             | 3,054           | 3,807.50    | 3,400             |
| Swedish.....                                                       | 1               | 2,253                     | 4,019             | 3,745             | 2,858           | 2,816.25    | 796               |
| Totals.....                                                        | 5               | 17,645                    | 23,309            | 26,750            | 17,211          | 20,421.60   | 19,522            |
| <i>From Europe to west coast of Canada:</i>                        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                       | 2               | 9,133                     | 12,427            | 14,445            | 9,202           | 11,416.25   | 6,718             |
| Dutch.....                                                         | 1               | 4,474                     | 6,011             | 7,310             | 4,495           | 5,592.50    | 3,670             |
| French.....                                                        | 1               | 4,119                     | 4,776             | 6,419             | 4,023           | 5,148.75    | 5,181             |
| Totals.....                                                        | 4               | 17,726                    | 24,114            | 28,174            | 17,720          | 22,157.50   | 15,569            |
| <i>From Europe to Australasia:</i>                                 |                 |                           |                   |                   |                 |             |                   |
| British.....                                                       | 3               | 18,302                    | 23,804            | 29,064            | 18,560          | 22,877.50   | 14,935            |
| <i>From east coast of United States to Australasia:</i>            |                 |                           |                   |                   |                 |             |                   |
| British.....                                                       | 2               | 7,261                     | 11,162            | 11,404            | 7,308           | 9,076.25    | 13,900            |
| United States.....                                                 | 1               | 4,531                     | 4,824             | 6,188             | 4,629           | 5,663.75    | 4,810             |
| Totals.....                                                        | 3               | 11,792                    | 15,986            | 17,592            | 11,937          | 14,740.00   | 18,710            |
| <i>From east coast of United States to west coast of Canada:</i>   |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                 | 2               | 7,240                     | 9,657             | 10,948            | 7,364           | 9,050.00    | 15,300            |
| <i>From Cristobal, C. Z., to west coast of United States:</i>      |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                 | 2               | 3,194                     | 3,799             | 5,322             | 3,171           | 3,992.50    | 3,802             |
| <i>From Europe to west coast of Central America:</i>               |                 |                           |                   |                   |                 |             |                   |
| German.....                                                        | 1               | 1,124                     | 1,320             | 1,928             | 1,136           | 1,405.00    | 909               |
| French.....                                                        | 1               | 851                       | 854               | 1,091             | 747             | 638.25      | .....             |
| Totals.....                                                        | 2               | 1,975                     | 2,174             | 3,019             | 1,883           | 2,043.25    | 999               |
| <i>From east coast of Canada to Australasia:</i>                   |                 |                           |                   |                   |                 |             |                   |
| British.....                                                       | 1               | 4,811                     | 5,518             | 7,759             | 4,873           | 6,013.75    | 9,507             |

## ATLANTIC TO PACIFIC—Continued.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.     | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |            |                   |
| <i>From east coast of South America to Far East:</i>                    |                 |                           |                   |                   |                 |            | <i>Long tons.</i> |
| Japanese.....                                                           | 1               | 3,666                     | 4,282             | 5,848             | 3,633           | \$4,582.50 | 4,876             |
| <i>From West Indies to Far East:</i>                                    |                 |                           |                   |                   |                 |            |                   |
| Japanese.....                                                           | 1               | 3,582                     | 4,459             | 5,227             | 3,193           | 4,477.50   | 5,000             |
| <i>From east coast of South America to west coast of United States:</i> |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 1               | 3,522                     | 4,914             | 5,652             | 3,522           | 4,402.50   | 6,331             |
| <i>From east coast of Canada to Australasia:</i>                        |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 3,502                     | 4,102             | 5,492             | 3,342           | 4,377.50   | 1,572             |
| <i>From east coast of Mexico to west coast of Central America:</i>      |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                      | 1               | 2,350                     | 2,326             | 3,099             | 2,364           | 2,791.20   | 4,687             |
| <i>From east coast of United States to west coast of Mexico:</i>        |                 |                           |                   |                   |                 |            |                   |
| Mexican.....                                                            | 1               | 721                       | 919               | 1,415             | 859             | 661.68     |                   |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 614                       | 622               | 1,138             | 602             | 746.40     | 810               |
| <i>From Cristobal, C. Z., to west coast of Central America:</i>         |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 638                       | 706               | 1,170             | 654             | 797.50     | 416               |
| <i>From Cristobal to Gatun Lake:</i>                                    |                 |                           |                   |                   |                 |            |                   |
| British.....                                                            | 1               | 148                       | 148               | 148               | 148             | 111.00     |                   |
| Totals, May, 1922.....                                                  | 134             | 472,852                   | 594,713           | 742,419           | 467,705         | 578,433.82 | 673,398           |
| Totals, April, 1922.....                                                | 121             | 409,406                   | 520,688           | 650,055           | 410,266         | 505,319.46 | 562,433           |
| Totals, May, 1921.....                                                  | 100             | 334,894                   | 414,429           | 529,408           | 334,322         | 412,934.09 | 381,323           |

## PACIFIC TO ATLANTIC.

|                                                                         |    |        |         |         |        |              |         |
|-------------------------------------------------------------------------|----|--------|---------|---------|--------|--------------|---------|
| <i>United States coastwise ports:</i>                                   |    |        |         |         |        |              |         |
| United States.....                                                      | 23 | 89,874 | 108,686 | 135,768 | 90,064 | \$111,151.00 | 108,319 |
| <i>From west coast of South America to east coast of United States:</i> |    |        |         |         |        |              |         |
| United States.....                                                      | 9  | 33,330 | 41,066  | 53,515  | 33,151 | 41,662.50    | 59,773  |
| British.....                                                            | 4  | 10,641 | 13,608  | 18,452  | 11,105 | 12,216.62    | 7,539   |
| Norwegian.....                                                          | 3  | 2,624  | 3,496   | 4,304   | 2,639  | 3,280.00     | 1,884   |
| Danish.....                                                             | 2  | 4,777  | 5,197   | 6,229   | 3,939  | 5,905.75     | 9,497   |
| Swedish.....                                                            | 1  | 1,349  | 1,458   | 2,316   | 1,630  | 1,686.25     | 2,700   |
| Totals.....                                                             | 19 | 52,721 | 64,825  | 84,816  | 52,464 | 64,751.12    | 81,393  |
| <i>From west coast of United States to Europe:</i>                      |    |        |         |         |        |              |         |
| United States.....                                                      | 3  | 15,873 | 17,820  | 23,045  | 14,153 | 19,541.30    | 29,300  |
| Japanese.....                                                           | 3  | 13,348 | 13,464  | 17,590  | 12,851 | 16,156.80    | 22,355  |
| Danish.....                                                             | 2  | 7,213  | 9,921   | 12,609  | 8,807  | 9,016.25     | 16,866  |
| Norwegian.....                                                          | 1  | 4,523  | 5,627   | 7,093   | 4,479  | 5,653.75     | 9,600   |
| British.....                                                            | 1  | 3,736  | 4,459   | 6,138   | 3,838  | 4,670.00     | 8,525   |
| Swedish.....                                                            | 1  | 2,303  | 3,969   | 3,802   | 2,839  | 2,878.75     | 5,849   |
| Totals.....                                                             | 11 | 46,996 | 55,260  | 70,277  | 46,967 | 57,916.85    | 92,495  |
| <i>From west coast of South America to Europe:</i>                      |    |        |         |         |        |              |         |
| British.....                                                            | 5  | 20,471 | 25,298  | 31,535  | 19,955 | 25,588.75    | 35,270  |
| German.....                                                             | 2  | 6,118  | 7,906   | 8,795   | 5,156  | 7,647.50     | 11,420  |
| Dutch.....                                                              | 1  | 1,605  | 3,123   | 2,672   | 1,629  | 2,006.25     | 2,856   |
| Totals.....                                                             | 8  | 28,194 | 36,327  | 43,002  | 26,740 | 35,242.50    | 49,546  |
| <i>From west coast of South America to Cristobal, C. Z.:</i>            |    |        |         |         |        |              |         |
| British.....                                                            | 4  | 1,325  | 1,720   | 2,385   | 1,398  | 1,656.25     | 1,042   |
| Chilean.....                                                            | 2  | 3,608  | 6,250   | 8,333   | 6,086  | 4,510.00     | 984     |
| Peruvian.....                                                           | 2  | 2,504  | 5,364   | 7,922   | 3,941  | 3,130.00     | 3,192   |
| Totals.....                                                             | 8  | 7,437  | 13,334  | 18,640  | 11,425 | 9,296.25     | 5,218   |
| <i>From west coast of Canada to Europe:</i>                             |    |        |         |         |        |              |         |
| British.....                                                            | 4  | 21,684 | 25,891  | 31,690  | 20,084 | 26,956.40    | 36,968  |
| French.....                                                             | 1  | 4,368  | 4,369   | 5,248   | 3,329  | 5,242.80     | 5,401   |
| United States.....                                                      | 1  | 3,465  | 5,454   | 5,719   | 3,472  | 4,331.25     | 8,360   |
| Norwegian.....                                                          | 1  | 1,317  | 1,327   | 1,425   | 1,317  | 1,616.40     | 1,720   |
| Totals.....                                                             | 7  | 30,834 | 37,041  | 44,082  | 28,202 | 38,146.85    | 52,449  |
| <i>From Australasia to Europe:</i>                                      |    |        |         |         |        |              |         |
| British.....                                                            | 5  | 26,308 | 32,230  | 42,352  | 26,657 | 32,885.00    | 21,469  |

## PACIFIC TO ATLANTIC—Continued.

| Route and registry.                                                       | No. of vessels. | TONNAGE.                  |                   |                   |                  | Tolls.      | Tons of cargo.   |
|---------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|------------------|-------------|------------------|
|                                                                           |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net.  |             |                  |
| <i>From Far East to east coast of United States:</i>                      |                 |                           |                   |                   |                  |             | <i>Longtons.</i> |
| United States.....                                                        | 4               | 15,033                    | 19,892            | 22,981            | 11,906           | \$18,791.25 | 32,492           |
| Japanese.....                                                             | 1               | 3,649                     | 4,496             | 5,821             | 3,583            | 4,561.25    | 3,463            |
| Totals.....                                                               | 5               | 18,682                    | 24,388            | 28,802            | 18,494           | 23,352.50   | 35,955           |
| <i>From west coast of Canada to east coast of United States:</i>          |                 |                           |                   |                   |                  |             |                  |
| United States.....                                                        | 4               | 15,501                    | 19,639            | 24,856            | 15,263           | 19,376.25   | 21,322           |
| <i>From west coast of South America to east coast of Mexico:</i>          |                 |                           |                   |                   |                  |             |                  |
| British.....                                                              | 3               | 11,237                    | 12,989            | 19,007            | 11,410           | 9,352.08    | .....            |
| <i>From west coast of Central America to Europe:</i>                      |                 |                           |                   |                   |                  |             |                  |
| German.....                                                               | 2               | 2,901                     | 4,285             | 5,054             | 2,939            | 3,626.25    | 5,469            |
| <i>From west coast of Central America to Cristobal, C. Z.:</i>            |                 |                           |                   |                   |                  |             |                  |
| British.....                                                              | 2               | 1,507                     | 1,710             | 2,576             | 1,540            | 1,883.75    | 2,009            |
| <i>From west coast of Central America to east coast of Mexico:</i>        |                 |                           |                   |                   |                  |             |                  |
| United States.....                                                        | 2               | 2,371                     | 2,389             | 3,387             | 2,386            | 1,788.75    | .....            |
| <i>From Australasia to east coast of United States:</i>                   |                 |                           |                   |                   |                  |             |                  |
| United States.....                                                        | 1               | 4,309                     | 4,944             | 6,848             | 4,280            | 5,386.25    | 1,065            |
| <i>From west coast of South America to West Indies:</i>                   |                 |                           |                   |                   |                  |             |                  |
| French.....                                                               | 1               | 4,089                     | 4,936             | 5,617             | 3,491            | 5,111.25    | 168              |
| <i>From west coast of United States to east coast of South America:</i>   |                 |                           |                   |                   |                  |             |                  |
| United States.....                                                        | 1               | 3,634                     | 4,873             | 5,867             | 3,634            | 4,542.50    | 2,501            |
| <i>From Australasia to east coast of Canada:</i>                          |                 |                           |                   |                   |                  |             |                  |
| British.....                                                              | 1               | 3,513                     | 4,160             | 5,454             | 3,340            | 4,391.25    | 1,600            |
| <i>Mexican coastwise ports:</i>                                           |                 |                           |                   |                   |                  |             |                  |
| French.....                                                               | 1               | 2,155                     | 2,096             | 2,953             | 1,880            | 1,616.25    | .....            |
| <i>From west coast of Central America to east coast of United States:</i> |                 |                           |                   |                   |                  |             |                  |
| Norwegian.....                                                            | 1               | 1,608                     | 1,762             | 2,471             | 1,484            | 2,010.00    | 2,544            |
| <i>From west coast of United States to Cristobal, C. Z.:</i>              |                 |                           |                   |                   |                  |             |                  |
| United States.....                                                        | 1               | 1,332                     | 1,593             | 2,153             | 1,309            | 1,665.00    | 1,494            |
| <i>Colombian coastwise ports:</i>                                         |                 |                           |                   |                   |                  |             |                  |
| British.....                                                              | 1               | 614                       | 622               | 1,138             | 602              | 746.40      | 93               |
| <i>Miscellaneous:</i>                                                     |                 |                           |                   |                   |                  |             |                  |
| British.....                                                              | 1               | ( <sup>a</sup> )          | ( <sup>a</sup> )  | ( <sup>a</sup> )  | ( <sup>a</sup> ) | 2,375.00    | .....            |
| Panamanian.....                                                           | 1               | 14                        | 14                | 14                | 14               | 10.50       | .....            |
| Totals, May, 1922....                                                     | 109             | 355,831                   | 438,103           | 555,134           | 354,585          | 436,623.55  | 485,109          |
| Totals, April, 1922....                                                   | 109             | 362,526                   | 454,145           | 569,283           | 362,562          | 447,936.65  | 483,614          |
| Totals, May, 1921.....                                                    | 110             | 360,002                   | 450,188           | 563,194           | 358,425          | 422,948.68  | 411,412          |

<sup>a</sup> Warship.<sup>a</sup> Displacement tonnage of 4,750.<sup>a</sup> Launch.**Arrival of Naval Academy Practice Squadron.**

The Practice Squadron of the United States Naval Academy, carrying midshipmen from the Academy on a practice cruise, arrived at Cristobal in the morning of June 13. The squadron consists of the battleships *Florida* (flagship), *Delaware*, and *North Dakota* and the cruiser *Olympia*. The *Florida* and the *Olympia* made the transit through Gatun Locks to Gatun Lake directly after arrival, to anchor in fresh water, and the other vessels went to the coaling plant at Cristobal for bunkers. The squadron is to be at the Canal until June 20.

**Postal and Cable Addresses of The Panama Canal.**

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."



**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 3, 1922.

The Master of the steamship *Heffron* radios as below:

"At 5.45 p. m., G. M. T., June 3d, passed derelict schooner, floating side up, with spar projecting 20 feet above water, Lat. 12° 52' N., Long. 99° 29' W. Very dangerous to navigation."

JAY J. MORROW,  
Governor.

**Notice to Mariners.—Light Established, Flamenco Island, Balboa Harbor.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 8, 1922.

CIRCULAR NO. 643-99.

1. On or about July 1, 1922, a white, flashing light will be established on S. W. side of Flamenco Island. Position, latitude 8° 50' 40" North, longitude 79° 31' 44" West. Illuminant, electricity. Candlepower approximately 20,000.

Focal plane 120 feet, visible 19 miles, exhibited from square concrete pedestal, painted white. Color of light, white, with red sector. Characteristic, 0.5 second light, 1 second dark; 2 seconds light, 1.5 seconds dark (one group of two flashes every 5 seconds). Showing white from 92° to 185° true. Red sector from 185° to 283°. Obscured 169° from 283° to 92° through North.

2. Owing to its location this light will be of no use as a daymark.

(C. & G. Charts Nos. 952 and 953. H. O. Charts Nos. 1019, 1176, and 5001. H. O. Publication No. 30.)

JAY J. MORROW,  
Governor.

**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 10, 1922.

The Master of the steamship *Venezuela* radios that he passed a floating tree, 40 feet long, at 9 a. m. to-day, in Lat. 9° 10' N., Long., 84° 51' W. Dangerous to navigation.

JAY J. MORROW,  
Governor.

**Ships at Canal Repair Shops.**

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended June 7:

Steamships *Lady Sybil*, dry dock ship for cleaning and painting; clean and wire-brush; paint 1 coat of anticorrosive and 1 coat of antifouling paint, paint furnished by agents of ship; open up and examine H. P., I. P., and L. P., cylinders and valve chests; renew rings as required; machine valves; recut oil ways and re-align thrust horseshoes; repack stern gland and gauge end of tail shaft; refit valves of general service pump and repair 2 valves in the pipe line; open up, examine, and clear air and circulating pumps; renew wooden blocks in anchor windlass brakes; clean choked stay tubes and electric weld boiler; renew boiler zines, grind-in all boiler valves; open up, clean, reface and grind-in all sea valves; renew sternpost, 2 boards, and 12 rowlocks with sockets of port lifeboat; fit steam connections into fore and after holds; renew cover for steering chains on port side; reface and grind-in 4 steam stop valves in engine room; renew 1 length of wash deck pipe; clean out boiler feed tank in engine room; supply 1 vacuum gauge in place of old; *Artigas*, cast and machine 6 valve guards for main air pump; *Hwah Ping*, manufacture 20 miscellaneous bronze air port screws; repair lavatories; *H. M. Storey*, manufacture and install 1 combination shaft and pinion for telemotor gear; launch *Leland F.*, lift launch to dock for painting, paint bottom 2 coats of copper paint; install 8" towing bitt, aft; manufacture and install 1 canopy frame and canopy; steamship *Lompoc*, dry dock ship for installation of spare tail shaft, account of broken shaft; re-align stern tube and renew lignum-vitæ bushing; stage, clean, and wire-brush; paint 1 coat of anticorrosive and 1 coat of antifouling paint, paint furnished by agents of ship; overhaul main engine stop valve; bore out general service pump; renew deck, steam, and exhaust

lines; repair feed line; repair boiler mountings; weld furnace in port boiler; repair oil line; repair evaporator; repair water service pipe; true up feed pump valves; renew links in spare steering chain; repair ventilators; calk leaky rivets in hull; cable ship *Guardian*, manufacture 1 set of H. P. piston rings for port and starboard main engines; remetal thrust horseshoe bearings and fit with adjustable liners; manufacture and fit new rings for fan engine, circulating pump, dynamo engine, and water piston rings to donkey boiler feed pump; manufacture and install 2 new valve spindles for steering engine; repair lugs to door of blower engine casing; repair general service pump; renew water rings in feed pump; repair ash ejector; overhaul boiler mountings; alter engine-room ventilators; make general repairs to steam, exhaust, water lines and feed lines; make miscellaneous heavy repairs to cable repair equipment; make miscellaneous repairs to steering gear, davits, cranes, and rigging; repair scupper and vent pipe.

The following vessels were at the Cristobal shops for repairs during the week ended June 12:

Steamships *Port Chalmers*, make 1 new copper pipe, and test to 400 pounds; *Conde de Churruca*, repair pipe as directed; schooner *Beulah*, make 1 mainmast, jib, 1 tarpaulin for hatch; repair stem; launch *Happy Days*, copper hull; make 3 extra balls for engine head; steamships *Brenta*, make 1 water tank as sample and repair damaged tanks, etc., *Cristobal*, furnish calkers; furnish 12 packing glands as per sketch; furnish 1 piece of tool steel; repair galley range grate; *Advance*, overhaul water end of sanitary pump; manufacture knuckle joint and repair reach rod main stop valve; repair hand rail and straighten stanchion, port side, No. 2 hatch; manufacture 6 brass caps for lifeboat self-bailers; *Montserrat*, repair piping as found necessary; *Turrialba*, straighten 1 connecting rod for steering engine; *Delft*, repair ice machine as directed; *Toco*, make 1 steel adapter for American C. O.-2 gas bottles; U. S. Army, Jr., mine planter *Nones*, extend lower fender to stem of vessel on port and starboard sides.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending June 10, 1922.

| Name of vessel.         | Line or charterer.                 | Arrived.  | Departed.    | Cargo—     |        |
|-------------------------|------------------------------------|-----------|--------------|------------|--------|
|                         |                                    |           |              | Discharged | Laded. |
|                         |                                    |           |              | Tons.      | Tons.  |
| Jamaica.....            | Pacific Steam Navigation Co. ....  | June 4..  | June 4.....  |            | 21     |
| U. S. A. T. Eldena..... | U. S. Army Transport Service.....  | June 4..  | June 4.....  | 192        |        |
| Newport.....            | Pacific Mail Steamship Co. ....    | June 5..  | June 5.....  | 5          | 6      |
| Dillwyn.....            | U. S. Shipping Board.....          | June 7..  | June 9.....  | 5,857      |        |
| Salvador.....           | Pacific Steam Navigation Co. ....  | June 8..  | June 8.....  |            | 7      |
| Meriden.....            | General Steamship Corporation..... | June 9..  | June 10..... | 100        |        |
| U. S. S. Argonne.....   | U. S. Navy Transport Service.....  | June 10.. |              | 8          |        |

### Deceased Employee.

The estate of the following deceased employee of The Panama Canal is now in process of settlement, and any claims against this estate, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due him, should be presented at the office of the Administrator of Estates at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. This name will be published but once.

| Name.           | Check No. | Native of—    | Isthmian residence. | Employed by—          | Date of death. |
|-----------------|-----------|---------------|---------------------|-----------------------|----------------|
| Edgar Best..... | 34324     | Barbados..... | Paraiso.....        | Dredging Division.... | May 17, 1922.  |

### Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.  
PUBLISHED WEEKLY.



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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., June 21, 1922.

No. 45.

## Coal Prices.

Inquiries received indicate that not all of the users of the Canal have ample information as to the prices of coal at the Canal.

The prices, under various conditions of delivery, are published from time to time in THE PANAMA CANAL RECORD and form a part of the Tariff, with supplements, all of which are distributed to steamship operators regularly and without charge. Files of these publications may be consulted in the offices of American Consular officers, who are in position to supply all other essential information about the Panama Canal.

The Panama Canal, acting through its affiliate, the Panama Railroad Company, is the only organization selling coal to ships at the Canal. Its quotations, accordingly, are the lowest prices and the only prices unless it should happen that contractors are quoting for sales at the Canal, notwithstanding that all deliveries are made through the Canal plants at the published tariff rates.

The following is a summary of the present prices on coal:

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa. For delivering lump coal for galley use, in sacks, \$12 additional per ton, but if vessel furnishes sacks, \$5 per ton additional.

*For coal in large quantities as specified below, taken from alongside coaling plants:*

- (a) To vessels taking 1,200 tons or over;
- (b) To vessels taking between 825 and 1,200 tons and bunkering full;
- (c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

In case of change of prices, the new rates are published in the Tariff and in THE PANAMA CANAL RECORD, and as far as possible advance notice is given to the steamship agents on the Isthmus and to the press.







## THROUGH THE CANAL—ATLANTIC TO PACIFIC—continued.

|                | 14 | 17 | 22 | 15 | 12 | 15 | 15 | 19 | 38 | 15 | 20 | 56 | American | Pacific States Lumber Co.      | 253 | 4 | 43 | 7 | 22 | 2 | Mobile      | San Francisco | Rails, resin, etc |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----------|--------------------------------|-----|---|----|---|----|---|-------------|---------------|-------------------|
| Cottonplant.   | 14 | 17 | 22 | 15 | 12 | 15 | 15 | 19 | 38 | 15 | 20 | 56 | American | Pacific States Lumber Co.      | 253 | 4 | 43 | 7 | 22 | 2 | Mobile      | San Francisco | Rails, resin, etc |
| Magellan.      | 14 | 17 | 22 | 15 | 12 | 15 | 15 | 19 | 38 | 15 | 20 | 56 | American | Pacific States Lumber Co.      | 253 | 4 | 43 | 7 | 22 | 2 | Mobile      | San Francisco | Rails, resin, etc |
| Elder Branch.  | 14 | 17 | 22 | 15 | 12 | 15 | 15 | 19 | 38 | 15 | 20 | 56 | American | Pacific States Lumber Co.      | 253 | 4 | 43 | 7 | 22 | 2 | Mobile      | San Francisco | Rails, resin, etc |
| Santa Maria    | 15 | 21 | 04 | 16 | 7  | 25 | 16 | 14 | 15 | 16 | 15 | 50 | British  | Nautilus Steamship Co.         | 380 | 3 | 59 | 7 | 21 | 3 | Port Talbot | Valparaiso    | Fuel, coal, gen.  |
| Wilston.       | 16 | 7  | 25 | 16 | 7  | 25 | 16 | 14 | 15 | 16 | 15 | 50 | British  | Santa Maria Steamship Co.      | 380 | 3 | 59 | 7 | 21 | 3 | Port Talbot | Valparaiso    | Fuel, coal, gen.  |
| Nordfarer      | 16 | 7  | 25 | 16 | 7  | 25 | 16 | 14 | 15 | 16 | 15 | 50 | British  | W. S. Miller                   | 335 | 0 | 48 | 0 | 19 | 0 | Grampemouth | Tacoma        | Fuel oil          |
| Trontolo       | 16 | 7  | 25 | 16 | 7  | 25 | 16 | 14 | 15 | 16 | 15 | 50 | British  | Patterson Brown                | 335 | 0 | 48 | 0 | 19 | 0 | Grampemouth | Tacoma        | Fuel oil          |
| Genoa Maru     | 16 | 10 | 35 | 16 | 10 | 35 | 16 | 14 | 15 | 16 | 15 | 50 | American | Standard Oil Co.               | 419 | 0 | 57 | 0 | 20 | 0 | Mobile      | Callao        | Coke and coal     |
| West Gumbo     | 16 | 11 | 25 | 16 | 11 | 25 | 16 | 14 | 15 | 16 | 15 | 50 | Japanese | Nippon Yusen Kaisha            | 425 | 0 | 57 | 0 | 20 | 0 | Mobile      | Talara        | Coke and coal     |
| City of Bagdad | 16 | 6  | 45 | 16 | 13 | 10 | 16 | 19 | 38 | 15 | 20 | 56 | British  | Swayne & Hoyt (S. B.)          | 409 | 0 | 54 | 0 | 20 | 3 | New York    | Kobe          | General           |
| Gen. O. H.     | 14 | 18 | 04 | 17 | 6  | 22 | 17 | 12 | 40 | 17 | 14 | 00 | American | Ellerman City Line             | 470 | 0 | 58 | 0 | 27 | 4 | New York    | Los Angeles   | General           |
| Ernst          | 14 | 18 | 04 | 17 | 6  | 22 | 17 | 12 | 40 | 17 | 14 | 00 | American | Panama Railroad Steamship Line | 356 | 4 | 45 | 3 | 17 | 6 | New York    | Yokohama      | General           |
| Brenta         | 2  | 6  | 44 | 17 | 7  | 30 | 17 | 15 | 09 | 17 | 16 | 35 | Italian  | Navigazione Libera Triestina   | 400 | 6 | 54 | 1 | 25 | 6 | New York    | Hongkong      | Steel             |
| Canadian       | 17 | 4  | 54 | 17 | 9  | 10 | 17 | 15 | 45 | 17 | 17 | 21 | British  | Canadian Government            | 400 | 0 | 52 | 0 | 19 | 6 | Montreal    | Sydney        | General           |
| Plant.         | 17 | 4  | 54 | 17 | 9  | 10 | 17 | 15 | 45 | 17 | 17 | 21 | British  | E. Hunt & Sons, Ltd.           | 472 | 0 | 59 | 0 | 27 | 4 | Montreal    | Port Pirie    | Sulphur, etc      |
| Trethney       | 17 | 5  | 55 | 17 | 9  | 22 | 17 | 16 | 31 | 17 | 18 | 30 | British  | Commonwealth and Dom. Line.    | 426 | 0 | 54 | 0 | 23 | 0 | Sabine      | Auckland      | General           |
| Port Lincoln   | 17 | 11 | 25 | 17 | 13 | 00 | 17 | 19 | 10 | 17 | 20 | 18 | British  | Commonwealth and Dom. Line.    | 426 | 0 | 54 | 0 | 23 | 0 | Sabine      | Auckland      | General           |

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                |    |    |    |    |    |    |    |    |    |    |    |    |           |                                  |     |   |    |   |    |   |               |               |                 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------------------------|-----|---|----|---|----|---|---------------|---------------|-----------------|
| Fiona          | 11 | 2  | 00 | 11 | 7  | 49 | 11 | 14 | 00 | 11 | 17 | 00 | Danish    | East Asiatic Co.                 | 408 | 0 | 53 | 0 | 25 | 0 | San Francisco | Copenhagen    | General, lumber |
| Advance        | 11 | 2  | 50 | 11 | 8  | 31 | 11 | 14 | 55 | 15 | 9  | 00 | American  | Panama Railroad Steamship Line   | 295 | 0 | 38 | 5 | 19 | 0 | Buenaventura  | Cristobal     | Coffee, hides   |
| Argonne        | 11 | 6  | 07 | 11 | 10 | 07 | 11 | 16 | 31 | 11 | 16 | 31 | American  | U. S. Navy                       | 436 | 9 | 58 | 2 | 22 | 0 | San Francisco | Hampton R'ds  | Navy, general   |
| San Luis       | 12 | 4  | 30 | 12 | 8  | 13 | 12 | 14 | 38 | 12 | 21 | 25 | American  | Grace Line                       | 360 | 2 | 51 | 0 | 25 | 6 | Talcahuano    | New York      | General         |
| Huallaga       | 12 | 6  | 00 | 12 | 8  | 34 | 12 | 16 | 38 | 12 | 21 | 25 | Peruvian  | Peruvian Line                    | 360 | 0 | 44 | 7 | 20 | 0 | Mollendo      | Cristobal     | General         |
| Venezuela      | 11 | 17 | 00 | 12 | 12 | 35 | 12 | 17 | 40 | 13 | 20 | 27 | American  | Pacific Mail Steamship Co.       | 380 | 0 | 48 | 6 | 21 | 6 | San Francisco | New York      | (*)             |
| Delft          | 12 | 6  | 30 | 12 | 14 | 46 | 12 | 22 | 03 | 15 | 10 | 10 | Dutch     | Royal Netherlands W. I. Mail     | 370 | 0 | 50 | 0 | 19 | 0 | Valparaiso    | Hamburg       | (*)             |
| Laurea C. Hall | 11 | 13 | 20 | 12 | 14 | 51 | 12 | 22 | 30 | 14 | 6  | 05 | British   | Pacific Metals Transp. Co., Ltd. | 81  | 0 | 25 | 6 | 9  | 6 | Buenaventura  | Cristobal     | (*)             |
| West Catance   | 12 | 16 | 00 | 13 | 6  | 42 | 13 | 16 | 13 | 13 | 19 | 09 | American  | Elder Steel Steamship Co.        | 410 | 5 | 54 | 3 | 23 | 0 | Puget Sound   | Charleston    | General, lumber |
| Albertville    | 13 | 2  | 00 | 13 | 7  | 41 | 13 | 16 | 24 | 13 | 16 | 24 | British   | Imperial Oil Co.                 | 463 | 0 | 60 | 2 | 26 | 6 | Talara        | New York      | Crude naphtia   |
| Johanne Dyb-   | 13 | 18 | 30 | 14 | 6  | 45 | 14 | 16 | 03 | 14 | 16 | 03 | Norwegian | Olaf Orvig                       | 314 | 0 | 46 | 5 | 25 | 6 | Corinto       | Charleston    | General         |
| D. G. Soffield | 14 | 12 | 30 | 14 | 8  | 04 | 14 | 17 | 24 | 14 | 22 | 45 | American  | Standard Oil Co. of California   | 439 | 0 | 58 | 0 | 30 | 3 | San Francisco | Paulsboro     | Oil             |
| Saint Louis    | 14 | 7  | 10 | 14 | 8  | 17 | 14 | 20 | 10 | 16 | 20 | 30 | French    | French Line                      | 398 | 0 | 50 | 0 | 25 | 0 | Corinto       | Bilbao        | General         |
| Alaskan        | 14 | 12 | 10 | 14 | 12 | 58 | 14 | 20 | 40 | 15 | 8  | 05 | American  | American-Hawaiian Line           | 470 | 1 | 57 | 0 | 22 | 0 | Los Angeles   | Boston        | General         |
| Jamaica        | 14 | 12 | 00 | 14 | 13 | 43 | 14 | 21 | 34 | 14 | 34 | 14 | British   | Pacific Steam Navigation Co.     | 220 | 0 | 34 | 0 | 10 | 4 | Tumaco        | Pto. Colombia | General         |
| Hermes         | 14 | 9  | 05 | 14 | 14 | 05 | 14 | 21 | 58 | 16 | 5  | 35 | Dutch     | Royal Netherlands W. I. Mail     | 346 | 0 | 48 | 0 | 18 | 0 | Valparaiso    | Amsterdam     | General         |
| West Katan     | 14 | 14 | 00 | 14 | 14 | 44 | 14 | 23 | 04 | 15 | 6  | 12 | American  | U. S. Shipping Board             | 410 | 5 | 54 | 3 | 18 | 6 | Tacoma        | Buenos Aires  | General         |
| Astronomer     | 14 | 16 | 00 | 15 | 7  | 41 | 15 | 15 | 25 | 15 | 17 | 20 | British   | T. & J. Harrison                 | 482 | 7 | 58 | 0 | 28 | 0 | Victoria      | London        | General         |
| Willpoo        | 15 | 6  | 15 | 15 | 8  | 31 | 15 | 16 | 25 | 15 | 19 | 25 | American  | Williams Steamship Co.           | 386 | 8 | 52 | 2 | 21 | 6 | Everett       | New York      | Lumber          |
| Targis         | 15 | 6  | 15 | 15 | 8  | 31 | 15 | 16 | 25 | 15 | 19 | 25 | German    | Roland Line                      | 264 | 0 | 42 | 0 | 10 | 0 | Champerico    | Have          | General         |
| Garfield       | 15 | 12 | 00 | 15 | 12 | 50 | 15 | 19 | 13 | 16 | 12 | 26 | American  | Grace Line                       | 300 | 0 | 45 | 0 | 14 | 6 | Casma         | New York      | General         |
| Andrea F.      | 15 | 11 | 56 | 15 | 13 | 23 | 15 | 20 | 40 | 15 | 20 | 40 | American  | Lockenbach Line                  | 496 | 0 | 68 | 0 | 22 | 0 | Los Angeles   | New York      | General         |
| Luckenbach     | 15 | 7  | 10 | 15 | 14 | 57 | 15 | 22 | 07 | 16 | 10 | 29 | Danish    | East Asiatic Co.                 | 410 | 0 | 55 | 0 | 20 | 0 | Talcahuano    | Liverpool     | General         |
| Panama         | 16 | 9  | 45 | 16 | 10 | 31 | 16 | 17 | 26 | 16 | 17 | 26 | British   | Pacific Steam Navigation Co.     | 216 | 0 | 35 | 1 | 13 | 3 | Guayaquil     | Cristobal     | General         |
| Manavi         | 16 | 9  | 45 | 16 | 10 | 31 | 16 | 17 | 26 | 16 | 17 | 26 | American  | U. S. Steel Products Co.         | 395 | 5 | 55 | 0 | 24 | 6 | Vancouver     | Boston        | General, lumber |
| Steel Age      | 16 | 21 | 30 | 17 | 7  | 41 | 17 | 15 | 00 | 17 | 23 | 55 | American  | Barber Steamship Lines, Inc.     | 380 | 0 | 61 | 0 | 23 | 0 | Aberdeen      | New York      | General, lumber |
| Deoria         | 17 | 2  | 00 | 17 | 7  | 58 | 17 | 16 | 10 | 17 | 23 | 55 | American  | Chilean Line                     | 345 | 0 | 49 | 0 | 22 | 0 | Antofagasta   | Baltimore     | Copper          |
| Republic       | 17 | 9  | 00 | 17 | 10 | 12 | 17 | 18 | 03 | 17 | 19 | 40 | American  | Chilean Line                     | 345 | 0 | 49 | 0 | 22 | 0 | Antofagasta   | Baltimore     | Copper          |

\* Coffee, sugar, and general.

\* Yes, copper, borax, barley, etc.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

(Continued on page 566, column 2.)

## Origin and Destination of Cargo—Pacific to Atlantic, May, 1922.

| From—                                    | NORTH AMERICA.        |        |                       |         |             |                       |                       |              |                       |                               | EUROPE.               |          |                |          |         |          |          |                    | Grand totals. | Per cent of total cargo. |                      |                |                              |
|------------------------------------------|-----------------------|--------|-----------------------|---------|-------------|-----------------------|-----------------------|--------------|-----------------------|-------------------------------|-----------------------|----------|----------------|----------|---------|----------|----------|--------------------|---------------|--------------------------|----------------------|----------------|------------------------------|
|                                          | UNITED STATES.        |        |                       |         |             | Total, North America. |                       |              |                       |                               | Europe.               |          |                |          |         |          |          |                    |               |                          |                      |                |                              |
|                                          | North Atlantic ports. |        | South Atlantic ports. |         | Gulf ports. | Total, United States. | East coast of Canada. | West Indies. | East coast of Mexico. | Cristobal, C. Z. <sup>2</sup> | Total, North America. | Belgium. | British Isles. | Denmark. | France. | Germany. | Holland. | Norway and Sweden. |               |                          | Europe. <sup>3</sup> | Total, Europe. | East coast of South America. |
|                                          |                       |        |                       |         |             |                       |                       |              |                       |                               |                       |          |                |          |         |          |          |                    |               |                          |                      |                |                              |
| SOUTH AMERICA:                           |                       |        |                       |         |             |                       |                       |              |                       |                               |                       |          |                |          |         |          |          |                    |               |                          |                      |                |                              |
| Chile.....                               | 39,546                | 15,503 | 2,700                 | 37,749  | .....       | .....                 | .....                 | .....        | 103                   | 57,852                        | 1,996                 | 2,449    | .....          | 300      | 4,752   | 4,001    | .....    | 3,530              | 17,028        | .....                    | 74,880               | 15.5           |                              |
| Peru.....                                | 9,288                 | .....  | .....                 | 9,288   | .....       | .....                 | .....                 | .....        | 2,951                 | 12,239                        | .....                 | 5,416    | .....          | .....    | 10,783  | .....    | .....    | 2,523              | 18,722        | .....                    | 30,963               | 6.4            |                              |
| Colombia.....                            | 533                   | .....  | .....                 | 533     | .....       | .....                 | .....                 | .....        | 353                   | 886                           | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 17                   | 0.2            |                              |
| Ecuador.....                             | 1,559                 | .....  | .....                 | 1,559   | .....       | .....                 | .....                 | .....        | 1,355                 | 2,914                         | .....                 | .....    | .....          | .....    | 36      | .....    | .....    | 2,157              | 2,193         | .....                    | 5,107                | 1.0            |                              |
| West coast of South America <sup>1</sup> | 10,000                | .....  | .....                 | 10,000  | .....       | 168                   | .....                 | .....        | 2,225                 | 12,993                        | .....                 | 8,252    | .....          | .....    | 495     | .....    | .....    | 2,851              | 11,598        | .....                    | 24,591               | 5.0            |                              |
| Totals.....                              | 61,526                | 15,503 | 2,700                 | 79,729  | .....       | 168                   | .....                 | .....        | 6,987                 | 86,851                        | 1,996                 | 16,117   | .....          | 300      | 16,066  | 4,001    | .....    | 11,061             | 49,541        | .....                    | 17,136,442           | 28.1           |                              |
| NORTH AMERICA:                           |                       |        |                       |         |             |                       |                       |              |                       |                               |                       |          |                |          |         |          |          |                    |               |                          |                      |                |                              |
| West coast of United States.....         | 109,416               | .....  | .....                 | 107,708 | .....       | 2,214                 | 800                   | .....        | 341                   | 111,063                       | .....                 | 83,396   | 281            | 306      | 2,568   | 2,047    | 7,338    | 26,568             | 122,504       | 400                      | 233,967              | 48.2           |                              |
| West coast of Canada.....                | 2,908                 | .....  | .....                 | 2,908   | .....       | 611                   | .....                 | .....        | .....                 | 3,579                         | .....                 | 12,498   | .....          | .....    | 6,310   | .....    | 2,121    | 524                | 12,498        | .....                    | 16,077               | 3.3            |                              |
| West coast of Central America.....       | 2,583                 | .....  | .....                 | 2,583   | .....       | .....                 | .....                 | .....        | 6,052                 | 8,635                         | .....                 | 3,386    | .....          | .....    | .....   | .....    | 1,440    | .....              | 8,955         | .....                    | 17,590               | 3.6            |                              |
| West coast of North America <sup>1</sup> | 14,336                | .....  | .....                 | 14,336  | .....       | 185                   | .....                 | .....        | .....                 | 14,521                        | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | 1,065              | 6,423         | .....                    | 20,944               | 4.3            |                              |
| Totals.....                              | 120,303               | 1,457  | 5,835                 | 127,595 | .....       | 3,010                 | 800                   | .....        | 6,393                 | 137,798                       | .....                 | 99,280   | 281            | 838      | 8,878   | 2,047    | 10,899   | 28,157             | 150,380       | 400                      | 288,578              | 59.4           |                              |
| ASIA:                                    |                       |        |                       |         |             |                       |                       |              |                       |                               |                       |          |                |          |         |          |          |                    |               |                          |                      |                |                              |
| China.....                               | 1,053                 | .....  | .....                 | 1,053   | .....       | .....                 | .....                 | .....        | .....                 | 1,053                         | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 1,053                | 0.2            |                              |
| Japan.....                               | 222                   | .....  | .....                 | 222     | .....       | .....                 | .....                 | .....        | .....                 | 222                           | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 222                  | 0.2            |                              |
| Philippines.....                         | 21,822                | 665    | .....                 | 22,487  | .....       | .....                 | .....                 | .....        | .....                 | 22,487                        | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 22,487               | 4.6            |                              |
| Malay Peninsula.....                     | 823                   | .....  | .....                 | 823     | .....       | .....                 | .....                 | .....        | .....                 | 823                           | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 823                  | 0.2            |                              |
| Far East <sup>1</sup>                    | 11,370                | .....  | .....                 | 11,370  | .....       | .....                 | .....                 | .....        | .....                 | 11,370                        | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 11,370               | 2.4            |                              |
| Totals.....                              | 35,290                | 665    | .....                 | 35,955  | .....       | .....                 | .....                 | .....        | .....                 | 35,955                        | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 35,955               | 7.4            |                              |
| AUSTRALASIA:                             |                       |        |                       |         |             |                       |                       |              |                       |                               |                       |          |                |          |         |          |          |                    |               |                          |                      |                |                              |
| Australia.....                           | 1,065                 | .....  | .....                 | 1,065   | .....       | .....                 | .....                 | .....        | .....                 | 1,065                         | .....                 | .....    | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 1,065                | 0.2            |                              |
| New Zealand.....                         | 235                   | .....  | .....                 | 235     | 65          | .....                 | .....                 | .....        | .....                 | 300                           | .....                 | 17,088   | .....          | .....    | .....   | .....    | .....    | .....              | .....         | .....                    | 17,388               | 3.6            |                              |
| Australasia <sup>1</sup>                 | 1,298                 | .....  | .....                 | 1,298   | 2           | .....                 | .....                 | .....        | .....                 | 1,300                         | .....                 | 3,981    | .....          | 400      | .....   | .....    | .....    | .....              | .....         | .....                    | 4,381                | 1.2            |                              |
| Totals.....                              | 2,598                 | .....  | .....                 | 2,598   | 67          | .....                 | .....                 | .....        | .....                 | 2,665                         | .....                 | 21,069   | .....          | 400      | .....   | .....    | .....    | .....              | 21,469        | .....                    | 24,134               | 5.0            |                              |
| Grand totals.....                        | 219,717               | 17,625 | 8,535                 | 245,877 | 67          | 3,178                 | 800                   | 13,350       | 263,302               | 1,996                         | 136,466               | 281      | 1,538          | 24,944   | 6,048   | 10,899   | 39,218   | 221,390            | 417,485,109   | 100.0                    |                      |                |                              |
| Per cent of total cargo:                 |                       |        |                       |         |             |                       |                       |              |                       |                               |                       |          |                |          |         |          |          |                    |               |                          |                      |                |                              |
| May, 1922.....                           | 45.3                  | 3.6    | 1.8                   | 50.7    | .....       | 0.6                   | 0.2                   | 2.7          | 51.2                  | 0.4                           | 28.1                  | .....    | 0.3            | 5.1      | 1.3     | 2.3      | 8.1      | 45.6               | 0.1           | 100.0                    |                      |                |                              |
| April, 1922.....                         | 39.7                  | 11.7   | 1.0                   | 52.4    | .....       | 1.0                   | 0.3                   | 3.8          | 57.6                  | 1.5                           | 28.0                  | 0.3      | 0.5            | 2.4      | 0.9     | 0.5      | 6.8      | 41.0               | 0.5           |                          |                      |                |                              |
| May, 1921.....                           | 25.2                  | 2.7    | 8.6                   | 36.5    | .....       | 1.5                   | 0.2                   | 3.5          | 41.7                  | 0.5                           | 28.8                  | 0.2      | 1.6            | 4.1      | 1.7     | .....    | 18.7     | 55.6               | 0.7           |                          |                      |                |                              |

<sup>1</sup> Figures represent tons of 2,240 pounds.<sup>2</sup> Includes both local and transfer cargo.<sup>3</sup> Cargo not routed so as to allow segregation between definite ports.

Origin and Destination of Cargo—Atlantic to Pacific, May, 1922.<sup>1</sup>

| From—                                  | SOUTH AMERICA. |           |          |       |                                           |                       | NORTH AMERICA.               |         |                               |         |                                           |                       | FAR EAST. |        |              |                                |                  |              | AUSTRALASIA. |                           | Grand totals. | Per cent of total cargo. |         |         |        |     |
|----------------------------------------|----------------|-----------|----------|-------|-------------------------------------------|-----------------------|------------------------------|---------|-------------------------------|---------|-------------------------------------------|-----------------------|-----------|--------|--------------|--------------------------------|------------------|--------------|--------------|---------------------------|---------------|--------------------------|---------|---------|--------|-----|
|                                        | Chile.         | Colombia. | Ecuador. | Peru. | West coast of South America. <sup>2</sup> | Total, South America. | West coast of United States. | Canada. | Central America. <sup>3</sup> | Mexico. | West coast of North America. <sup>2</sup> | Total, North America. | China.    | Japan. | Philippines. | Various Far East. <sup>2</sup> | Total, Far East. | New Zealand. | Australia.   | Australasia. <sup>2</sup> |               |                          | Total.  | Hawaii. |        |     |
|                                        |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         |        |     |
| NORTH AMERICA:                         |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         |        |     |
| United States—                         |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         |        |     |
| North Atlantic ports.                  | 4,235          | 86        | 468      | 3,040 | 13,202                                    | 21,031                | 153,283                      | 1,200   | 370                           | 1,008   | 500                                       | 156,361               | 30,031    | 57,762 | 1,115        | 91,900                         | 180,811          | 25           | 60           | 26,858                    | 26,943        | 120,385                  | 266     | 57.2    |        |     |
| South Atlantic ports.                  | 6,000          |           |          |       | 1,030                                     | 6,000                 | 7,372                        |         |                               |         |                                           | 7,372                 | 1,792     | 1,268  | 747          | 646                            | 4,453            |              |              |                           |               |                          | 17,825  | 2.6     |        |     |
| Gulf ports.                            | 465            |           |          |       |                                           | 1,495                 | 23,276                       |         |                               |         |                                           | 23,276                | 43,268    | 11,474 | 7,940        | 15,786                         | 78,468           |              |              |                           |               |                          | 103,239 | 15.3    |        |     |
| Total, United States.                  | 10,700         | 86        | 468      | 3,040 | 14,232                                    | 28,526                | 183,931                      | 1,200   | 370                           | 1,008   | 500                                       | 187,009               | 75,094    | 70,504 | 9,802        | 108,332                        | 263,732          | 25           | 60           | 26,858                    | 26,943        | 120,506                  | 330     | 75.2    |        |     |
| Cristobal <sup>1</sup> .               |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         |        |     |
| East coast of Mexico.                  | 239            | 363       | 138      | 341   | 2,306                                     | 3,387                 | 4,139                        |         | 416                           | 155     |                                           | 4,710                 |           |        |              |                                |                  |              |              |                           |               |                          | 8,097   | 1.2     |        |     |
| East coast of Canada.                  | 44,109         |           |          |       |                                           | 44,109                | 150                          |         | 4,687                         |         |                                           | 4,837                 |           |        |              |                                |                  |              | 382          | 1,164                     | 1,300         | 2,846                    |         | 48,946  | 7.3    |     |
| West Indies.                           |                |           |          |       |                                           |                       |                              | 6,600   |                               |         |                                           | 6,600                 |           | 5,000  |              |                                | 5,000            |              |              |                           |               |                          |         | 2,846   | 0.4    |     |
|                                        |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         | 11,600  | 1.7    |     |
| Total, North America.                  | 55,048         | 449       | 606      | 3,381 | 16,538                                    | 76,022                | 188,220                      | 7,800   | 5,473                         | 1,163   | 500                                       | 203,156               | 75,094    | 75,504 | 9,802        | 108,332                        | 268,732          | 407          | 1,224        | 28,158                    | 29,789        | 120,577                  | 819     | 85.8    |        |     |
| EUROPE:                                |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         |        |     |
| Belgium.                               | 290            |           |          | 189   |                                           | 479                   | 11,474                       | 817     |                               |         |                                           | 12,291                |           |        |              |                                |                  |              | 3,890        | 6,654                     | 4,391         | 14,935                   |         | 12,770  | 1.9    |     |
| British Isles.                         | 6,917          |           |          | 20    | 4,435                                     | 11,686                | 23,068                       | 5,392   | 1,457                         |         |                                           | 6,849                 |           |        |              |                                |                  |              |              |                           |               |                          |         | 44,842  | 6.7    |     |
| France.                                |                |           |          |       |                                           |                       | 437                          |         |                               |         |                                           | 437                   |           |        |              |                                |                  |              |              |                           |               |                          |         | 6,136   | 0.9    |     |
| Germany.                               | 1,262          |           |          | 102   | 123                                       | 3,335                 | 4,822                        | 315     | 999                           |         |                                           | 1,314                 |           |        |              |                                |                  |              |              |                           |               |                          |         | 6,136   | 0.9    |     |
| Norway-Sweden.                         |                |           |          |       |                                           |                       | 1,696                        |         | 320                           |         |                                           | 2,016                 |           |        |              |                                |                  |              |              |                           |               |                          |         | 2,016   | 0.3    |     |
| Italy.                                 | 1,596          |           |          | 13    | 7                                         |                       | 1,616                        |         | 25                            |         |                                           | 11,746                |           |        |              |                                |                  |              |              |                           |               |                          |         | 12,351  | 1.6    |     |
| Holland.                               | 746            |           |          | 59    |                                           |                       | 805                          | 11,521  | 200                           | 25      |                                           | 1,437                 |           |        |              |                                |                  |              |              |                           |               |                          |         | 8,265   | 1.2    |     |
| Europe. <sup>1</sup>                   |                |           |          | 32    | 6,736                                     | 6,768                 | 1,348                        | 89      |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         | 12,351 | 1.6 |
| Total, Europe.                         | 10,811         |           |          | 167   | 4,813                                     | 21,757                | 37,548                       | 32,183  | 2,563                         | 1,344   |                                           | 36,090                |           |        |              |                                |                  |              | 3,890        | 6,654                     | 4,391         | 14,935                   |         | 88,573  | 13.2   |     |
| FAR EAST COAST OF SOUTH AMERICA.       |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         |        |     |
|                                        |                |           |          | 575   |                                           |                       | 575                          | 63      |                               |         |                                           | 6,331                 |           | 100    |              |                                | 100              |              |              |                           |               |                          |         | 7,066   | 1.0    |     |
| Grand total.                           | 65,859         | 1,024     | 773      | 3,194 | 38,295                                    | 114,145               | 226,671                      | 10,426  | 6,817                         | 1,163   | 500                                       | 245,577               | 75,094    | 75,604 | 9,802        | 108,332                        | 268,832          | 4,297        | 7,878        | 32,549                    | 44,724        | 120,673                  | 398     | 100.0   |        |     |
| Per cent of total cargo:               |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         |        |     |
| May, 1922.                             | 9.8            | 0.2       | 0.1      | 1.2   | 5.7                                       | 17.0                  | 33.7                         | 1.5     | 1.0                           | 0.2     | 0.1                                       | 36.5                  | 11.1      | 11.2   | 1.5          | 16.1                           | 39.9             | 0.6          | 1.2          | 4.8                       | 6.6           | 100.0                    |         |         |        |     |
| April, 1922.                           | 10.0           | 0.5       | 0.1      | 1.9   | 5.0                                       | 17.5                  | 32.9                         | 1.8     | 2.3                           |         |                                           | 37.0                  | 10.7      | 16.2   |              | 5.6                            | 32.5             | 4.7          | 0.7          | 5.0                       | 10.4          | 6                        |         |         |        |     |
| May, 1921.                             | 9.2            | 0.3       | 0.1      | 4.7   | 5.1                                       | 19.4                  | 36.5                         | 0.1     | 3.0                           |         |                                           | 39.0                  | 5.4       | 6.5    | 0.9          | 11.6                           | 24.4             | 5.6          | 2.6          | 7.8                       | 16.0          | 6                        |         |         |        |     |
| Includes both local and transit cargo. |                |           |          |       |                                           |                       |                              |         |                               |         |                                           |                       |           |        |              |                                |                  |              |              |                           |               |                          |         |         |        |     |

<sup>1</sup> Figures represent tons of 2,240 pounds.<sup>2</sup> Cargo not routed so as to allow segregation between definite ports.<sup>3</sup> Includes 333 tons for Babou, C. Z.<sup>4</sup> Includes both local and transit cargo.



# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Three Weeks Ending June 17, 1922.

| Name of vessel.       | Line or charterer.               | Arrived.     | Departed.    | Cargo—     |        |
|-----------------------|----------------------------------|--------------|--------------|------------|--------|
|                       |                                  |              |              | Discharged | Laded. |
|                       |                                  |              |              | Tons.      | Tons.  |
| Ebro.....             | Pacific Steam Navigation Co..... | May 28.....  | May 29.....  | 11         | 83     |
| Atenas.....           | United Fruit Co.....             | May 28.....  | May 29.....  |            | 101    |
| Gen. G. W. Goethals.  | Panama Railroad Steamship Line.  |              | May 29.....  |            | 2,902  |
| Laura C. Hall.        | Pacific Metals Corp.....         |              | May 30.....  |            | 33     |
| Albaro.....           | Italian Line.....                |              | May 30.....  |            | 925    |
| Aysen.....            | Chilean Line.....                |              | May 30.....  |            | 575    |
| Cauca.....            | Pacific Steam Navigation Co..... |              | May 31.....  |            | 1,160  |
| Crenatula.....        | Anglo-Saxon Petroleum Co.....    | May 28.....  | May 31.....  | 8,000      |        |
| Eiger.....            | Caribbean Steamship Co.....      | May 28.....  | June 3.....  | 60         |        |
| Columbia.....         | N. O. & S. A. Steamship Line.    | May 29.....  | May 29.....  | 250        | 230    |
| Poseidon.....         | Royal Netherlands W. I. Mail.    | May 29.....  | May 30.....  |            | 814    |
| Heredia.....          | United Fruit Co.....             | May 29.....  | June 1.....  | 770        | 142    |
| Calamares.....        | United Fruit Co.....             | May 30.....  | May 31.....  | 310        | 182    |
| Ecuador.....          | Pacific Mail Steamship Co.....   | May 30.....  | May 31.....  | 83         | 428    |
| Tivives.....          | United Fruit Co.....             | May 31.....  | June 1.....  | 391        | 4      |
| Metapan.....          | United Fruit Co.....             | May 31.....  | June 1.....  | 43         | 499    |
| Salvador.....         | Pacific Steam Navigation Co..... | May 31.....  | May 31.....  | 717        |        |
| Acajutla.....         | Pacific Steam Navigation Co..... | June 1.....  |              | 558        |        |
| Atenas.....           | United Fruit Co.....             | June 1.....  | June 1.....  | 19         | 57     |
| Orcoma.....           | Pacific Steam Navigation Co..... | June 1.....  | June 2.....  | 15         | 38     |
| Gladiator.....        | Leyland Harrison Line.....       | June 2.....  | June 3.....  | 390        |        |
| Urubamba.....         | Peruvian Line.....               | June 2.....  |              | 1,120      |        |
| Panama.....           | Panama Railroad Steamship Line.  | June 2.....  |              | 2,346      |        |
| Anna.....             | Caribbean Steamship Co.....      | June 3.....  |              | 21         |        |
| San Benito.....       | United Fruit Co.....             | June 4.....  | June 4.....  | 7½         | 109    |
| Urubamba.....         | Peruvian Line.....               |              | June 6.....  |            | 307    |
| Abangarez.....        | United Fruit Co.....             | June 4.....  | June 7.....  | 4          | 161    |
| Italia.....           | N. O. & S. A. S. S. Line.....    | June 5.....  | June 5.....  | 48         | (*)    |
| Kinderdijk.....       | Holland-American Line.....       | June 5.....  | June 5.....  | 2          | 203    |
| Van Rensselaer.....   | Royal Netherlands W. I. Mail.    | June 5.....  | June 5.....  | 19         | (*)    |
| Salvador.....         | Pacific Steam Navigation Co..... |              | June 8.....  |            | 216    |
| Parismina.....        | United Fruit Co.....             | June 5.....  | June 8.....  | 766        | 197    |
| Newport.....          | Pacific Mail Steamship Co.....   | June 5.....  | June 9.....  | 1,283      | 1,332  |
| Pastores.....         | United Fruit Co.....             | June 6.....  | June 7.....  | 376        | 162    |
| Dillwyn.....          | Columbus Shipping Co.....        | June 6.....  | June 7.....  | 3,000      | (*)    |
| Puerto Rico.....      | French Line.....                 | June 6.....  | June 8.....  | 19         | 1,248  |
| Conde de Churruca.    | Anglo-Saxon Petroleum Co.....    | June 7.....  | June 8.....  | 6,083      | (*)    |
| San Blas.....         | United Fruit Co.....             | June 7.....  | June 7.....  | 17         | 54     |
| Ortega.....           | Pacific Steam Navigation Co..... | June 8.....  | June 9.....  | 114        | (*)    |
| Acajutla.....         | Pacific Steam Navigation Co..... |              | June 9.....  |            | 600    |
| Panama.....           | Panama Railroad Steamship Line.  |              | June 9.....  |            | 1,710  |
| Montserrat.....       | Spanish Line.....                | June 9.....  |              | 90         |        |
| Van Rensselaer.....   | Royal Netherlands W. I. Mail.    | June 9.....  | June 10..... | 200        | (*)    |
| Imperial.....         | Chilean Line.....                | June 9.....  |              | 504½       |        |
| Mayebashi Maru.....   | Nippon Yusen Kaisha.....         | June 10..... | June 10..... | 203        | (*)    |
| Alvarado.....         | Pacific Steam Navigation Co..... | June 10..... |              | 329        |        |
| Carmarthenshire.....  | Pacific Steam Navigation Co..... | June 10..... |              | 125        |        |
| Camito.....           | Elders & Fyffes, Ltd.....        | June 10..... | June 10..... | 18         | 4      |
| Alvarado.....         | Pacific Steam Navigation Co..... |              | June 11..... |            | 438    |
| Carmarthenshire.....  | Pacific Steam Navigation Co..... |              | June 12..... |            | 300    |
| Montserrat.....       | Spanish Line.....                |              | June 12..... |            | 346    |
| Turrialba.....        | United Fruit Co.....             | June 11..... | June 13..... | (*)        | 392    |
| Advance.....          | Panama Railroad Steamship Line.  | June 11..... | June 15..... | 1,080      | 98     |
| Venezuela.....        | Pacific Mail Steamship Co.....   | June 12..... | June 13..... | 1,005      | 92     |
| Almagro.....          | Pacific Steam Navigation Co..... | June 12..... | June 13..... | 76         | 190    |
| Delft.....            | Royal Netherlands W. I. Mail.    | June 12..... | June 14..... | 1          | 1,077  |
| Laura C. Hall.....    | Pacific Metals Transp. Co., Ltd  | June 12..... | June 14..... | 80         | 4      |
| Imperial.....         | Chilean Line.....                |              | June 14..... |            | 913    |
| Cartago.....          | United Fruit Co.....             | June 12..... | June 15..... | 974        | 114    |
| Huallaga.....         | Peruvian Line.....               | June 12..... |              | 1,491      |        |
| Ulua.....             | United Fruit Co.....             | June 13..... | June 14..... | 213        | 104    |
| Texas.....            | French Line.....                 | June 13..... | June 14..... | 70         | 171    |
| Haarlem.....          | Royal Netherlands W. I. Mail.    | June 13..... | June 15..... | 156        | 2      |
| Colon.....            | Panama Railroad Steamship Line.  | June 13..... |              | 1,521      |        |
| Sixola.....           | United Fruit Co.....             | June 14..... | June 14..... | 269½       | 4      |
| Carrillo.....         | United Fruit Co.....             | June 14..... | June 15..... | 39         | 397    |
| Australien.....       | Danish East Asiatic Co.....      | June 14..... | June 15..... | 75         | (*)    |
| Hermes.....           | Royal Netherlands W. I. Mail.    | June 14..... | June 15..... | 26         | 534    |
| Magellan.....         | Pacific Steam Navigation Co..... | June 14..... | June 15..... | 163        | 110    |
| Saint Louis.....      | French Line.....                 | June 14..... | June 16..... | 2          | 228    |
| Gen. O. H. Ernst..... | Panama Railroad Steamship Line.  | June 14..... | June 17..... | 49         | 14     |
| Targis.....           | Roland Line.....                 | June 15..... | June 15..... | 2          | (*)    |
| Garfield.....         | Grace Line.....                  | June 15..... | June 16..... | 117        | (*)    |
| Manavi.....           | Pacific Steam Navigation Co..... | June 16..... |              | 409        |        |
| Colombia.....         | Pacific Mail Steamship Co.....   | June 16..... |              | 1,491      |        |

\* Pounds.

\* No cargo discharged.

\* No cargo laded.



**Death of Joel M. Pratt.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 13, 1922.

*To all concerned*—The death of Mr. Joel M. Pratt, Superintendent of the Dredging Division, The Panama Canal, while on leave in the States, is announced, as having occurred under an operation at Baton Rouge, La., on June 11, 1922.

This announcement is made with a deep sense of personal as well as official loss. Mr. Pratt had a long and most valuable service to his credit in the Engineer Department, U. S. Army, when he accepted the position of Superintendent of Dredging, The Panama Canal, to which he was appointed May 25, 1918. His high professional skill, his devotion to duty, his high Christian character, and his unflinching courtesy to all with whom he came in contact, were such as to inspire confidence in his conduct of all his important duties, and earn him the unqualified respect of the Governor and Engineer of Maintenance, under whom he served, of his colleagues at head of other Canal divisions, and of the employees of the Dredging Division, whose earlier fine record of achievement in no respect suffered while under his charge. In his untimely death the Canal has lost a most efficient employee, and many of us a beloved and loyal friend.

As a mark of respect for his memory it is directed that on Thursday, June 15, all operations of the Dredging Division (excepting as to such as would imperil public property) be suspended for the space of 5 minutes, from 12 noon to 12.05 p. m.

JAY J. MORROW, Governor.

**Ships at Canal Repair Shops.**

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended June 13:

Steamship *Dillwyn*, braze new copper patch on 5-inch expansion, on deck exhaust line, for fuel oil cargo pump.

**PREVIOUSLY REPORTED.**

Cable ship *Guardian*, heavy repairs to cable machinery; running repairs to engine and deck departments; tug *Favorite*, convert from coal burner to oil burner; dredge *No. 86*, miscellaneous heavy repairs.

The following vessels were at the Cristobal shops for repairs during the week ended June 19:

Steamships *Jamaica*, roll 12 tubes in boiler; open up sanitary tank on boat deck; clean pipe line; also furnish and fit new Y piece; supply 1 new key for office safe and alter existing key and lock; renew 3 lengths of steering chains; clean and paint ladies and men's bath rooms and water closets, 1 good coat, including baths; clean and cement wash sanitary tank on boat deck; supply and fit new dumping board in No. 1 hold in way of hatch; cement floor of men's water closet after painting with a minimum of 2-inch cement; furnish 1 boat spar; repair No. 1 hatch; calk boat deck; calk forward lifeboat; manufacture 3 hatch tarpaulins as follows: one 21' 4" by 15', one 17' 6" by 15', one 24' 4" by 15'; renew length of steam pipe casing on saloon deck, make fire hose nozzle to fit hose; renew port boiler pillar gauge drain pipe; furnish 6 mild steel pinching pins to sketch. furnish 3 mild steel pins for turning gear as sketch, furnish 24 bolts and nuts,  $\frac{5}{8}$ " by 2"; repair several hand tools and lamps; furnish 12 brass screws to pattern for dynamo brushes; furnish 3 cast iron rings to gauge for dynamo engine; line up steering engine drum shaft and fit new brasses; anneal, test, and adjust steering chains; repair 1 set of cargo fall swivels; repair ventilator of fore-castle head; *Manavi*, machine electric engine piston grooves; furnish new piston rings, 1 new crosshead pin and brasses and 2 crosshead and 2 crank pin bolts; furnish 4 pins for main bilge pump as sketch; face up 1 set of Weir's pump valve seats and guards; renew studs and pins; furnish 12 valves for Weir's pump as pattern; renew windlass crosshead pins and bushes and crank pin brasses; renew bowl glass on standard compass; fit stem bar to No. 1 lifeboat; fair and refit hand rails around No. 1 hatch; rails and stanchions outside first-class dining saloon entrance door on starboard side to be repaired and part renewed; renew 1 scupper pipe from boat deck; furnish 1 kelvite 10" compass card, furnish 1 log rotator; schooner *Arabia*, make 1 valve, bronze, steamships *Colon*, deck department repairs; *St. Louis*, repair piping, etc.; *General O. H. Ernst*, build up 2 hoister crank shafts and refasten driving pinions; *Brenta*, manufacture copper feed pipe; *Huallaga*, repair copper feed pipe; *Tolosa*, repair small crank shaft; U. S. Army transport *Chateau Thierry*, manufacture 2 condenser wrenches per sketch.

## Official Circulars.

## Absence of Engineer of Maintenance.

THE PANAMA CANAL,  
EXECUTIVE DEPARTMENT,

BALBOA HEIGHTS, C. Z., June 19, 1922.

To all concerned—Effective to-day, and during the absence on leave of the Engineer of Maintenance, the Dredging Division will report directly to the Governor.

During the above period all matters usually handled by the Engineer of Maintenance will be routed to the Governor, who will make disposition of them.

The Assistant to the Engineer of Maintenance will report temporarily to Major Ridley.

JAY J. MORROW, Governor.

## Revision of Telephone Directory.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., June 13, 1922.

HEADS OF DEPARTMENTS AND DIVISIONS:

The copy for a revised telephone directory, to be issued as of July 15, 1922, will go to the printer July 1. All changes or corrections in the present directory should be forwarded to the Supervisor of Telephones, Balboa Heights, not later than July 1. Proof corrections will be made to July 15.

C. A. McILVAINE, Executive Secretary.

## Second-hand and Scrap Lumber.

THE PANAMA CANAL,  
SUPPLY DEPARTMENT,

BALBOA HEIGHTS, C. Z., June 10, 1922.

HEADS OF DEPARTMENTS AND DIVISIONS:

Effective June 15, the following prices will be allowed by the Supply Department for second-hand lumber, scrap lumber, and serviceable lumber which may be included in material classified as scrap for which requests for purchase of small quantities are received from time to time:

| Kind of lumber.                                                                                                                      | Credit to be allowed departments and divisions. | Issue and sales prices.       |                                           |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------|-------------------------------------------|
|                                                                                                                                      |                                                 | To departments and divisions. | To employees, individuals, and companies. |
| Flooring, second hand.....                                                                                                           | \$20.00                                         | \$25.00                       | \$30.00                                   |
| Ceiling, second hand.....                                                                                                            | 20.00                                           | 25.00                         | 30.00                                     |
| Siding, second hand.....                                                                                                             | 20.00                                           | 25.00                         | 30.00                                     |
| Lumber, dimension sizes, second hand.....                                                                                            | 12.00                                           | 16.00                         | 20.00                                     |
| Miscellaneous yellow pine and fir, serviceable lumber, included in material classified as scrap lumber.....                          | 12.00                                           | 16.00                         | 20.00                                     |
| Miscellaneous fancy and hardwood lumber, including all classes of native lumber included in material classified as scrap lumber..... | (1)                                             | (2)                           | (2)                                       |
| Miscellaneous scrap lumber.....                                                                                                      | 7.00                                            | 8.00                          |                                           |

<sup>1</sup> Fifty per cent of stock card prices of the same kind of new lumber, less \$5 per thousand.

<sup>2</sup> Fifty per cent of stock card price of same kind of new lumber. <sup>3</sup> Carload.

The unit price above specified, except under the items of scrap lumber, are prices per thousand and feet, board measure.

No second-hand lumber required for issue to settlers on Canal Zone lands will be sold to employees or outsiders at the present time.

R. K. MORRIS,  
Chief Quartermaster.

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 561.

PORT OF CRISTOBAL—continued

| *ARRIVALS.   |              |                                |                         | *DEPARTURES.    |              |                                |                                    |
|--------------|--------------|--------------------------------|-------------------------|-----------------|--------------|--------------------------------|------------------------------------|
| Date.        | Vessel.      | Line.                          | From—                   | Date.           | Vessel.      | Line.                          | For—                               |
| June 9.      | E. A. Beulah | W. R. Paulson                  | Colon.                  | June 12.        | Montserrat   | Spanish Line                   | Barcelona and wayports.            |
| June 10.     | Turrialba    | United Fruit Co.               | New Orleans via Habana. | June 13.        | Cristobal    | Panama Railroad Steamship Line | Norfolk.                           |
| June 11.     | Cartago      | United Fruit Co.               | New Orleans.            | June 13.        | Turrialba    | United Fruit Co.               | New Orleans via Bocas del Toro.    |
| June 12.     | Colon        | Panama Railroad Steamship Line | New York via Haiti.     | June 14.        | Ulua         | United Fruit Co.               | New York via wayports.             |
| June 13.     | Colon        | United Fruit Co.               | New York via Habana.    | June 14.        | Sixaola      | United Fruit Co.               | New York via Kingston.             |
| June 14.     | Ulua         | United Fruit Co.               | New York via wayports.  | June 15.        | Cartago      | United Fruit Co.               | New Orleans via wayports.          |
| June 14.     | Sixaola      | United Fruit Co.               | New York via Kingston.  | June 15.        | Carrillo     | United Fruit Co.               | New York via Colombia and Jamaica. |
| June 14.     | Carrillo     | United Fruit Co.               | New York via Kingston.  | June 15.        | E. A. Beulah | W. R. Paulson                  | Colon.                             |
| ** Schooner. |              |                                |                         | PORT OF BALBOA. |              |                                |                                    |
| June 10.     | Meriden.     | General Steamship Corp.        | San Francisco.          | June 11.        | Meriden.     | General Steamship Corp.        | Arica.                             |
| June 11.     | Anjo Maru.   | Toyo Kisen Kaisha              | Hongkong.               | June 11.        | Anjo Maru.   | Toyo Kisen Kaisha              | Valparaiso.                        |
| June 16.     | Ginyo Maru.  | Toyo Kisen Kaisha              | Valparaiso.             | June 17.        | Ginyo Maru.  | Toyo Kisen Kaisha              | Hongkong.                          |

\*Other than ships passing through the Canal.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.  
PUBLISHED WEEKLY.



Subscription rates, domestic, \$1.50 per year; foreign, \$2.00; address  
The Panama Canal Record, Balboa Heights, Canal Zone, or  
The Panama Canal, Washington, D. C.  
Entered as second-class matter February 6, 1918, at the Post Office  
at Cristobal, C. Z., under the Act of March 3, 1879.



*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., June 28, 1922.

No. 46.

## CANAL WORK IN MAY.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of May, 1922:

BALBOA HEIGHTS, C. Z., June 17, 1922.

*The Honorable, the Secretary of War,*  
*Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of May, 1922:

### CANAL TRAFFIC.

The tonnage of commercial vessels transiting the Canal during May totaled 1,032,816 net tons, Panama Canal measurement, and has been exceeded but 3 times since the opening of the Canal. The cargo carried by vessels transiting the Canal in May totaled 1,158,507 tons, establishing a record second only to the month of January, 1921, when 1,177,053 tons of cargo passed through the Canal.

Cargo in transit through the Canal to the Far East totaled 268,832 tons, and is the highest of record. Practically all of this cargo originated on the east coast of the United States. The total cargo tonnage originating on the east coast of the United States totaled 403,970 tons, or 75 per cent of the total cargo tonnage passing from the Atlantic to the Pacific.

Another feature of the month's traffic was that the tonnage of American vessels through the Canal during May exceeded that of any previous month in the history of the Canal. Vessels of American registry furnished practically half of the tonnage through the Canal, paid approximately half of the tolls, and carried slightly more than half of the total cargo passing through the Canal. During the past calendar year the percentage of American shipping to the total was approximately 40 per cent.

The total number of vessels and craft of all kinds transiting the Canal during the month of May, 1922, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                                 | May,<br>1922. | April,<br>1922. | May,<br>1921. |
|-------------------------------------------------|---------------|-----------------|---------------|
| Commercial vessels.....                         | 243           | 230             | 210           |
| Noncommercial vessels.....                      | 18            | 14              | 30            |
| Launches, etc. (under 10 tons measurement)..... | 6             | 9               | 6             |
| Total vessels and craft through Canal .....     | 267           | 253             | 246           |

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks in May as follows:

|                   | North-bound. | South-bound. | Total. |
|-------------------|--------------|--------------|--------|
| Gatun.....        | 9            | 7            | 16     |
| Pedro Miguel..... | 18           | 19           | 37     |
| Miraflores.....   | 17           | 13           | 30     |
| Totals.....       | 44           | 39           | 83     |

COMMERCIAL TRAFFIC.<sup>1</sup>*Comparative Traffic Statistics.*

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal during the month of May, 1922, with that of preceding months, along the lines indicated at the head of the various tables.

## TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | May, 1922.     | April, 1922. | May, 1921.   | Average month for past year. |
|-------------------------------------------|----------------|--------------|--------------|------------------------------|
| United States equivalent net tonnage..... | 828,683        | 771,932      | 694,896      | 742,327                      |
| Panama Canal net tonnage.....             | 1,032,816      | 974,833      | 864,617      | 920,005                      |
| Registered gross tonnage.....             | 1,297,553      | 1,219,338    | 1,092,602    | 1,157,412                    |
| Registered net tonnage.....               | 822,290        | 772,828      | 692,747      | 737,980                      |
| Tolls.....                                | \$1,015,057.37 | \$953,256.11 | \$835,882.77 | \$903,194.29                 |
| Tons of cargo.....                        | 1,158,507      | 1,046,047    | 792,735      | 853,032                      |

## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

|                                                   | May, 1922. | April, 1922. | May, 1921. |
|---------------------------------------------------|------------|--------------|------------|
| United States equivalent net tonnage.....         | 3,410      | 3,356        | 3,309      |
| Panama Canal net tonnage.....                     | 4,250      | 4,230        | 4,117      |
| Registered gross tonnage.....                     | 5,340      | 5,301        | 5,203      |
| Registered net tonnage.....                       | 3,384      | 3,360        | 3,299      |
| Tolls.....                                        | \$4,177.19 | \$4,144.59   | \$3,980.39 |
| Tons of cargo (including vessels in ballast)..... | 4,356      | 4,588        | 3,775      |
| Tons of cargo (laden vessels only).....           | 5,149      | 4,755        | 4,036      |

## UNITED STATES COASTWISE TRAFFIC.

|                    | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|--------------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                    | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.              |                      |                    |             |                |                      |                    |             |                |
| May.....           | 19                   | 82,257             | \$84,545.85 | 90,617         | 16                   | 75,593             | \$72,813.55 | 93,242         |
| June.....          | 17                   | 96,199             | 94,577.11   | 68,809         | 11                   | 53,986             | 52,953.75   | 57,234         |
| July.....          | 19                   | 101,924            | 99,474.75   | 60,997         | 14                   | 70,477             | 72,103.75   | 91,991         |
| August.....        | 19                   | 86,278             | 81,734.17   | 55,387         | 23                   | 110,899            | 118,316.25  | 129,792        |
| September.....     | 25                   | 134,239            | 136,340.58  | 72,620         | 15                   | 88,111             | 83,011.64   | 104,642        |
| October.....       | 22                   | 113,712            | 116,752.05  | 86,442         | 19                   | 95,731             | 101,710.00  | 105,951        |
| November.....      | 24                   | 136,349            | 131,558.19  | 91,067         | 17                   | 86,958             | 88,339.80   | 101,460        |
| December.....      | 20                   | 104,152            | 106,549.80  | 73,967         | 23                   | 116,482            | 117,600.08  | 105,134        |
| January, 1922..... | 28                   | 138,928            | 141,404.35  | 119,413        | 20                   | 108,921            | 111,440.00  | 85,892         |
| February.....      | 25                   | 117,512            | 116,235.50  | 94,548         | 19                   | 89,862             | 84,135.82   | 84,330         |
| March.....         | 34                   | 162,572            | 161,738.65  | 141,648        | 25                   | 128,988            | 124,465.78  | 123,657        |
| April.....         | 24                   | 114,283            | 110,272.10  | 137,207        | 26                   | 131,193            | 130,010.00  | 118,662        |
| May.....           | 32                   | 152,260            | 152,626.80  | 173,128        | 23                   | 108,686            | 111,151.00  | 108,319        |

## UNITED STATES SHIFTING BOARD VESSELS.

|                    | Atlantic to Pacific. |                    |           |                | Pacific to Atlantic. |                    |             |                |
|--------------------|----------------------|--------------------|-----------|----------------|----------------------|--------------------|-------------|----------------|
|                    | No of ships.         | P. C. net tonnage. | Tolls.    | Tons of cargo. | No of ships.         | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.              |                      |                    |           |                |                      |                    |             |                |
| May.....           | 9                    | 39,614             | 40,180.00 | 48,489         | 21                   | 97,257             | \$92,380.47 | 114,107        |
| June.....          | 17                   | 86,361             | 78,770.14 | 65,945         | 11                   | 49,370             | 48,080.00   | 59,695         |
| July.....          | 12                   | 67,851             | 65,796.25 | 29,918         | 12                   | 60,804             | 61,305.00   | 82,767         |
| August.....        | 15                   | 76,570             | 71,607.58 | 46,542         | 18                   | 79,390             | 77,353.39   | 91,897         |
| September.....     | 10                   | 53,816             | 51,785.48 | 38,368         | 16                   | 84,433             | 82,566.25   | 109,610        |
| October.....       | 10                   | 55,300             | 53,475.00 | 34,593         | 14                   | 61,980             | 62,318.75   | 79,129         |
| November.....      | 12                   | 74,635             | 71,525.74 | 44,976         | 5                    | 29,949             | 29,127.50   | 28,865         |
| December.....      | 9                    | 47,604             | 46,318.75 | 44,101         | 6                    | 32,957             | 32,803.75   | 28,784         |
| January, 1922..... | 6                    | 34,546             | 34,756.25 | 23,575         | 7                    | 31,550             | 30,646.95   | 28,831         |
| February.....      | 8                    | 39,168             | 36,706.25 | 49,424         | 6                    | 32,909             | 31,538.75   | 21,119         |
| March.....         | 16                   | 84,766             | 86,531.95 | 90,633         | 9                    | 51,848             | 46,734.40   | 37,310         |
| April.....         | 7                    | 35,406             | 35,006.25 | 51,244         | 9                    | 49,140             | 50,000.85   | 43,783         |
| May.....           | 13                   | 68,285             | 67,898.75 | 89,483         | 9                    | 42,499             | 41,595.00   | 50,953         |

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial service pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."



## ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past year, the figures representing the Panama Canal net tonnage:

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.                      | East coast of United States. | Europe. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|-----------------------------|------------------------------|---------|---------|------------|----------------|---------|
| 1921.                       |                              |         |         |            |                |         |
| May                         | 231,751                      | 107,404 | 48,151  | 20,612     | 6,511          | 414,429 |
| June                        | 250,806                      | 79,129  | 37,401  | 28,920     | 19,046         | 415,302 |
| July                        | 221,318                      | 124,108 | 23,167  | 23,488     | 10,970         | 403,051 |
| August                      | 257,600                      | 175,768 | 15,527  | 21,202     | 17,122         | 487,219 |
| September                   | 277,984                      | 160,534 | 10,589  | 23,038     | 58,189         | 530,634 |
| October                     | 262,440                      | 226,431 | 27,828  | 20,516     | 33,960         | 571,175 |
| November                    | 301,680                      | 192,594 | 14,997  | 18,444     | 11,302         | 539,017 |
| December                    | 312,225                      | 198,287 | 21,113  | 15,601     | 28,443         | 575,669 |
| 1922.                       |                              |         |         |            |                |         |
| January                     | 279,870                      | 153,315 | 30,271  | 18,398     | 31,910         | 513,764 |
| February                    | 273,996                      | 146,572 | 30,477  | 19,061     | 17,899         | 488,005 |
| March                       | 382,213                      | 144,630 | 17,223  | 21,389     | 20,586         | 586,041 |
| April                       | 305,725                      | 138,836 | 15,443  | 17,508     | 43,176         | 520,688 |
| May                         | 403,970                      | 118,612 | 26,305  | 22,529     | 23,897         | 594,713 |
| Average month for past year | 279,801                      | 153,967 | 24,374  | 20,682     | 24,926         | 503,750 |

## DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.                      | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|-----------------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| 1921.                       |                              |                              |           |              |                |         |
| May                         | 125,001                      | 103,143                      | 82,499    | 82,582       | 21,114         | 414,429 |
| June                        | 143,217                      | 106,369                      | 83,063    | 46,298       | 36,355         | 415,302 |
| July                        | 194,353                      | 45,391                       | 63,969    | 58,062       | 41,271         | 403,051 |
| August                      | 164,577                      | 166,886                      | 94,489    | 70,551       | 50,719         | 487,219 |
| September                   | 268,758                      | 90,115                       | 80,242    | 53,302       | 38,220         | 530,634 |
| October                     | 280,483                      | 78,532                       | 100,332   | 69,057       | 42,771         | 571,175 |
| November                    | 216,092                      | 167,721                      | 95,216    | 78,493       | 41,495         | 539,017 |
| December                    | 188,615                      | 115,980                      | 136,940   | 84,391       | 49,743         | 575,669 |
| 1922.                       |                              |                              |           |              |                |         |
| January                     | 170,927                      | 112,160                      | 100,878   | 83,526       | 46,273         | 513,764 |
| February                    | 151,388                      | 107,476                      | 107,197   | 94,271       | 27,673         | 488,005 |
| March                       | 195,833                      | 105,532                      | 149,697   | 83,107       | 51,872         | 586,041 |
| April                       | 145,819                      | 121,973                      | 121,594   | 81,436       | 49,866         | 520,688 |
| May                         | 184,282                      | 142,801                      | 178,176   | 49,410       | 40,044         | 594,713 |
| Average month for past year | 187,096                      | 100,106                      | 101,343   | 73,757       | 41,448         | 503,750 |

## ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.                      | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|-----------------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| 1921.                       |                              |                              |           |              |                |         |
| May                         | 174,128                      | 137,253                      | 12,437    | 81,086       | 45,309         | 450,188 |
| June                        | 116,521                      | 112,474                      | 18,740    | 75,400       | 23,040         | 346,175 |
| July                        | 174,412                      | 99,745                       | 41,084    | 70,124       | 22,197         | 407,562 |
| August                      | 229,629                      | 110,248                      | 20,628    | 68,661       | 48,894         | 478,067 |
| September                   | 218,453                      | 84,212                       | 14,762    | 30,814       | 46,262         | 394,503 |
| October                     | 252,645                      | 124,560                      | 37,720    | 41,436       | 42,018         | 498,379 |
| November                    | 189,942                      | 126,381                      | 23,556    | 6,581        | 56,934         | 403,394 |
| December                    | 195,969                      | 135,952                      | 28,194    | 39,616       | 41,844         | 441,575 |
| 1922.                       |                              |                              |           |              |                |         |
| January                     | 152,992                      | 100,224                      | 16,830    | 27,172       | 35,504         | 332,752 |
| February                    | 142,693                      | 110,778                      | 21,594    | 42,950       | 80,515         | 398,530 |
| March                       | 175,669                      | 104,847                      | 15,008    | 48,575       | 45,671         | 389,770 |
| April                       | 182,496                      | 124,842                      | 31,969    | 75,485       | 39,353         | 454,145 |
| May                         | 170,412                      | 133,033                      | 24,388    | 41,334       | 68,936         | 438,103 |
| Average month for past year | 187,379                      | 110,648                      | 23,728    | 49,735       | 44,025         | 415,515 |

## DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.                           | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|----------------------------------|---------|------------------------------|---------|------------|----------------|---------|
| 1921.                            |         |                              |         |            |                |         |
| May.....                         | 201,538 | 140,940                      | 73,705  | 21,549     | 12,446         | 450,188 |
| June.....                        | 155,147 | 136,292                      | 18,324  | 26,112     | 10,300         | 346,175 |
| July.....                        | 205,690 | 134,047                      | 23,123  | 28,770     | 15,932         | 407,562 |
| August.....                      | 231,830 | 194,279                      | 27,256  | 22,022     | 2,670          | 478,057 |
| September.....                   | 204,820 | 140,555                      | 26,478  | 17,114     | 5,536          | 394,503 |
| October.....                     | 259,613 | 170,189                      | 18,222  | 30,955     | 19,400         | 498,379 |
| November.....                    | 196,974 | 164,345                      | 20,446  | 16,760     | 4,869          | 403,394 |
| December.....                    | 191,277 | 192,575                      | 25,550  | 21,739     | 10,434         | 441,575 |
| 1922.                            |         |                              |         |            |                |         |
| January.....                     | 115,292 | 168,337                      | 26,831  | 16,489     | 5,703          | 332,752 |
| February.....                    | 163,910 | 172,900                      | 31,767  | 18,242     | 11,702         | 398,530 |
| March.....                       | 134,687 | 193,267                      | 34,969  | 18,724     | 8,123          | 389,770 |
| April.....                       | 169,493 | 242,087                      | 6,615   | 20,266     | 15,684         | 454,145 |
| May.....                         | 165,143 | 224,244                      | 17,474  | 16,637     | 14,605         | 438,103 |
| Average month for past year..... | 184,223 | 174,549                      | 23,881  | 21,414     | 11,448         | 415,515 |

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of May, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year.

|                                  | Tonnage routed to— |                    | Tonnage routed from— |                    |
|----------------------------------|--------------------|--------------------|----------------------|--------------------|
|                                  | Per cent increase. | Per cent decrease. | Per cent increase.   | Per cent decrease. |
| Europe.....                      |                    | 10.3               |                      | 23.3               |
| East coast of United States..... | 23.5               |                    | 44.4                 |                    |
| East coast of Mexico.....        |                    | 26.8               | 7.9                  |                    |
| Cristobal, C. Z.....             |                    | 22.3               | 8.9                  |                    |
| West coast of United States..... |                    | 1.5                |                      | 9.2                |
| West coast of South America..... | 42.6               |                    | 20.2                 |                    |
| Australasia.....                 |                    | 33.0               |                      | 20.3               |
| Far East.....                    | 75.8               |                    | 2.8                  |                    |

A detailed statement of traffic through the Panama Canal by trade routes for the month of May, 1922, was published in THE PANAMA CANAL RECORD under date of June 14, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes during May, 1922, as compared with the preceding month, and with the corresponding month of last year.

|                                      | Atlantic to Pacific. |              |            | Pacific to Atlantic. |              |            |
|--------------------------------------|----------------------|--------------|------------|----------------------|--------------|------------|
|                                      | May, 1922.           | April, 1922. | May, 1921. | May, 1922.           | April, 1922. | May, 1921. |
|                                      | Number of vessels.   |              |            | Number of vessels.   |              |            |
| United States coastwise ports.....   | 32                   | 24           | 19         | 23                   | 26           | 16         |
| United States and Far East.....      | 32                   | 19           | 16         | 5                    | 6            | 3          |
| Europe and United States.....        | 5                    | 6            | 4          | 11                   | 7            | 15         |
| United States and South America..... | 13                   | 18           | 11         | 19                   | 17           | 16         |
| Europe and South America.....        | 11                   | 9            | 9          | 8                    | 11           | 10         |
| Cristobal and South America.....     | 10                   | 8            | 9          | 8                    | 10           | 10         |
| Europe and Australasia.....          | 3                    | 8            | 7          | 5                    | 9            | 10         |
| United States and Australasia.....   | 3                    | 2            | 6          | 1                    | 3            | 1          |
| Europe and Canada.....               | 4                    | 1            | 1          | 7                    | 4            | 2          |
| Mexico and United States.....        |                      |              | 4          |                      |              | 4          |
| Mexico and South America.....        | 5                    | 2            | 3          | 3                    |              | 7          |
| United States and Canada.....        | 2                    | 3            | 1          | 4                    | 2            | 1          |
| Miscellaneous.....                   | 14                   | 21           | 10         | 15                   | 14           | 15         |
| Totals.....                          | 134                  | 121          | 100        | 109                  | 109          | 110        |

|                                      | Atlantic to Pacific.      |                 |               | Pacific to Atlantic.      |                 |               |
|--------------------------------------|---------------------------|-----------------|---------------|---------------------------|-----------------|---------------|
|                                      | May,<br>1922.             | April,<br>1922. | May,<br>1921. | May,<br>1922.             | April,<br>1922. | May,<br>1921. |
|                                      | Panama Canal net tonnage. |                 |               | Panama Canal net tonnage. |                 |               |
| United States coastwise ports.....   | 152,260                   | 114,283         | 82,257        | 108,686                   | 131,193         | 75,593        |
| United States and Far East.....      | 169,435                   | 97,507          | 76,114        | 24,388                    | 31,969          | 12,407        |
| Europe and United States.....        | 23,309                    | 31,536          | 19,986        | 55,260                    | 39,681          | 74,933        |
| United States and South America..... | 55,713                    | 55,628          | 36,887        | 64,825                    | 60,000          | 42,873        |
| Europe and South America.....        | 44,611                    | 38,702          | 34,972        | 36,327                    | 46,008          | 41,831        |
| Cristobal and South America.....     | 17,876                    | 13,518          | 15,354        | 13,334                    | 18,060          | 16,272        |
| Europe and Australasia.....          | 23,804                    | 57,728          | 47,451        | 32,230                    | 56,130          | 76,211        |
| United States and Australasia.....   | 15,986                    | 13,513          | 29,300        | 4,944                     | 13,861          | 4,875         |
| Europe and Canada.....               | 24,114                    | 6,334           | 4,995         | 37,041                    | 19,019          | 8,578         |
| Mexico and United States.....        |                           |                 | 21,246        |                           |                 | 19,794        |
| Mexico and South America.....        | 23,979                    | 10,132          | 15,308        | 12,989                    |                 | 36,282        |
| United States and Canada.....        | 9,657                     | 18,665          | 7,133         | 19,639                    | 5,064           | 5,020         |
| Miscellaneous.....                   | 33,969                    | 63,142          | 23,366        | 28,440                    | 33,160          | 35,524        |
| Totals.....                          | 594,713                   | 520,688         | 414,429       | 438,103                   | 454,145         | 450,188       |
|                                      | Tons of cargo carried.    |                 |               | Tons of cargo carried.    |                 |               |
|                                      | May,<br>1922.             | April,<br>1922. | May,<br>1921. | May,<br>1922.             | April,<br>1922. | May,<br>1921. |
|                                      | Panama Canal net tonnage. |                 |               | Panama Canal net tonnage. |                 |               |
| United States coastwise ports.....   | 173,128                   | 137,207         | 90,617        | 108,319                   | 118,622         | 93,242        |
| United States and Far East.....      | 264,900                   | 151,230         | 82,557        | 35,955                    | 33,874          | 9,883         |
| Europe and United States.....        | 19,522                    | 29,054          | 7,522         | 92,405                    | 55,368          | 112,892       |
| United States and South America..... | 28,546                    | 46,155          | 25,942        | 81,393                    | 89,037          | 50,597        |
| Europe and South America.....        | 37,547                    | 28,887          | 17,247        | 49,546                    | 56,119          | 49,546        |
| Cristobal and South America.....     | 3,132                     | 3,026           | 20,091        | 5,218                     | 6,486           | 7,294         |
| Europe and Australasia.....          | 14,935                    | 32,815          | 23,101        | 21,469                    | 50,182          | 51,163        |
| United States and Australasia.....   | 18,710                    | 16,615          | 31,488        | 1,065                     | 10,332          | 370           |
| Europe and Canada.....               | 15,569                    | 3,900           |               | 52,449                    | 29,370          | 15,165        |
| Mexico and United States.....        |                           |                 | 41,823        |                           |                 |               |
| Mexico and South America.....        | 44,109                    | 19,600          | 29,012        |                           |                 |               |
| United States and Canada.....        | 15,300                    | 22,559          | 4,400         | 21,322                    | 6,034           | 3,775         |
| Miscellaneous.....                   | 38,000                    | 71,385          | 7,537         | 15,878                    | 27,590          | 17,485        |
| Totals.....                          | 673,398                   | 562,433         | 381,323       | 485,109                   | 483,614         | 411,412       |

## TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was \$1,015,057.37. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the total revenue would have been increased by \$210,865.95. The additional tolls would have been contributed by nationality of vessels as follows:

|                    | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------|----------------------------|----------------------------|-------------|
| British.....       | \$32,123.06                | \$19,039.50                | \$51,162.56 |
| Chilean.....       | 3,983.45                   | 2,990.00                   | 6,973.45    |
| Danish.....        | 1,084.45                   | 3,420.00                   | 4,504.45    |
| Dutch.....         | 6,571.40                   | 1,741.35                   | 8,312.75    |
| French.....        | 998.78                     | 704.82                     | 1,703.60    |
| German.....        | 3,339.50                   | 3,374.65                   | 6,714.15    |
| Italian.....       | 2,075.55                   |                            | 2,075.55    |
| Japanese.....      | 4,624.80                   | 833.95                     | 5,458.75    |
| Norwegian.....     | 3,934.60                   | 2,171.05                   | 6,105.65    |
| Panamanian.....    |                            | .42                        | .42         |
| Peruvian.....      | 4,665.00                   | 3,306.80                   | 7,971.80    |
| Swedish.....       | 2,010.35                   | 1,947.40                   | 3,957.75    |
| United States..... | 57,782.76                  | 48,143.15                  | 105,925.91  |
| Totals.....        | 123,193.70                 | 87,672.25                  | 210,865.95  |

The additional tolls which would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

|                                                  | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------------------------------------|----------------------------|----------------------------|-------------|
| United States coastwise ports.....               | \$30,024.00                | \$25,119.08                | \$55,143.08 |
| United States and Canal Zone ports.....          | 566.30                     | 295.95                     | 862.25      |
| United States and United States possessions..... |                            | 4,417.50                   | 4,417.50    |
| United States and foreign ports.....             | 27,192.46                  | 16,184.85                  | 43,377.31   |
| Between foreign ports.....                       |                            | 2,125.77                   | 2,125.77    |
| Totals.....                                      | 57,782.76                  | 48,143.15                  | 105,925.91  |

Of the \$210,865.95 additional revenue that would have been collected by using the Panama Canal rules of measurement exclusively, \$8,972.40 represents the additional tolls that would have been collected on account of deck cargo.

#### AVERAGE TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

All cargo-carrying vessels pay tolls on their net tonnage as determined by established rules for measuring their available cargo-carrying space; the rate of such tolls per cargo ton varying in different vessels and in vessels of different nationalities with the ratio of cargo tonnage to net tonnage. The table below is indicative of the ratio of cargo tonnage to net tonnage for the month of May, 1922, by nationality of vessels.

|                                                | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total. |
|------------------------------------------------|----------------------------|----------------------------|--------|
| British.....                                   | \$0.83                     | \$0.94                     | \$0.87 |
| Chilean.....                                   | 5.13                       | 4.58                       | 4.88   |
| Danish.....                                    | 1.08                       | .57                        | .65    |
| Dutch.....                                     | .95                        | .70                        | .91    |
| French.....                                    | 1.61                       | 1.86                       | 1.72   |
| German.....                                    | 1.09                       | .67                        | .80    |
| Japanese.....                                  | .73                        | .80                        | .76    |
| Norwegian.....                                 | .71                        | .80                        | .73    |
| Italian.....                                   | 4.17                       | .....                      | 4.17   |
| Peruvian.....                                  | 4.44                       | .98                        | 1.83   |
| Swedish.....                                   | 1.96                       | .51                        | .84    |
| United States.....                             | .77                        | .85                        | .80    |
| Average rate for all vessels, May, 1922.....   | .82                        | .86                        | .84    |
| Average rate for all vessels, April, 1922..... | .86                        | .91                        | .89    |
| Average rate for all vessels, May, 1921.....   | 1.06                       | .89                        | .97    |

#### COMMODITY STATISTICS.

A classification of cargo passing through the Panama Canal during the month of May, 1922, has been compiled from declarations of cargo and manifests submitted by the ships' masters, and while incomplete, it is indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From the cargo declarations and manifests submitted it was possible to classify by commodities 77 per cent of all cargo passing from the Atlantic to the Pacific and 93 per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith, the figures representing tons of 2,240 pounds.

| Commodity.                      | May,<br>1922. | April,<br>1922. | May,<br>1921. |
|---------------------------------|---------------|-----------------|---------------|
| Atlantic to Pacific.            |               |                 |               |
| Manufactured goods:             |               |                 |               |
| Iron and steel.....             | 195,005       | 94,160          | 51,824        |
| Machinery.....                  | 29,347        | 6,179           | 9,416         |
| Railroad material.....          | 18,139        | 24,090          | 10,752        |
| Textiles, etc.....              | 13,360        | 5,431           | 5,709         |
| Oils:                           |               |                 |               |
| Crude petroleum.....            | 41,848        | 29,834          | 87,720        |
| Refined oils.....               | 97,091        | 36,854          | 47,371        |
| Other.....                      | 1,327         | 7,033           | 597           |
| Coal and coke.....              | 21,075        | 56,414          | 26,096        |
| Metals, various.....            | 17,627        | 12,854          | 6,627         |
| Sulphur.....                    | 12,373        | 3,800           | 10,500        |
| Creosote.....                   | 10,496        | .....           | .....         |
| Paper.....                      | 9,102         | 3,311           | 863           |
| Glass.....                      | 6,122         | 3,536           | 765           |
| Sugar.....                      | 6,640         | 41,173          | .....         |
| Asphalt.....                    | 5,891         | 998             | .....         |
| Cement.....                     | 3,995         | 4,762           | 3,121         |
| Cotton.....                     | 3,943         | 2,412           | 9,514         |
| Chemicals.....                  | 3,275         | 526             | 300           |
| Tobacco.....                    | 2,668         | 973             | 3,168         |
| Liquors.....                    | 645           | 1,149           | 1,533         |
| Miscellaneous.....              | 182,429       | 226,944         | 165,447       |
| Total, Atlantic to Pacific..... | 673,398       | 562,433         | 381,323       |
| Pacific to Atlantic.            |               |                 |               |
| Lumber.....                     | 96,637        | 102,194         | 31,099        |
| Wheat.....                      | 71,697        | 79,325          | 91,620        |
| Oils:                           |               |                 |               |
| Crude petroleum.....            | 19,264        | 10,177          | 41            |
| Refined oils.....               | 22,525        | .....           | .....         |
| Vegetable, etc.....             | 1,882         | 5,268           | 285           |



| Commodity.                       | May,<br>1922. | April,<br>1922. | May,<br>1921. |
|----------------------------------|---------------|-----------------|---------------|
| Pacific to Atlantic—Continued.   |               |                 |               |
| Ores:                            |               |                 |               |
| Iron.....                        | 21,006        | .....           | 8,000         |
| Copper.....                      | 9,245         | 7,439           | 1,135         |
| Other.....                       | 5,483         | 4,031           | 1,926         |
| Sugar.....                       | 35,398        | 23,568          | 41,571        |
| Nitrate.....                     | 29,565        | 79,325          | 43,504        |
| Barley.....                      | 18,411        | 19,360          | 7,294         |
| Metals:                          |               |                 |               |
| Copper.....                      | 15,148        | 11,388          | 11,289        |
| Other.....                       | 951           | 5,028           | 916           |
| Wool.....                        | 14,147        | 21,932          | 15,125        |
| Coffee.....                      | 13,334        | 12,350          | 9,476         |
| Cold storage, mutton, etc.       | 11,874        | 18,408          | 34,146        |
| Canned goods:                    |               |                 |               |
| Fish.....                        | 5,639         | 4,964           | 3,304         |
| Fruit.....                       | 5,707         | 10,024          | 5,979         |
| Other.....                       | 1,617         | 1,318           | 833           |
| Cacao.....                       | 7,590         | 4,910           | 4,260         |
| Flour.....                       | 6,533         | 9,245           | 27,186        |
| Cotton.....                      | 3,760         | 2,801           | 2,020         |
| Borax.....                       | 3,645         | 3,424           | 1,850         |
| Beans.....                       | 2,663         | 3,465           | 3,023         |
| Other and general.....           | 61,387        | 43,670          | 65,527        |
| Totals, Pacific to Atlantic..... | 485,109       | 483,614         | 411,412       |

## CLASSIFICATION OF COMMERCIAL TRAFFIC BY NATIONALITY, MAY, 1922.

| Nationality.                | No.<br>of<br>ships. | TONNAGE.                        |                         |             |         | Tolls.       | Tons<br>of cargo. |
|-----------------------------|---------------------|---------------------------------|-------------------------|-------------|---------|--------------|-------------------|
|                             |                     | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered. |         |              |                   |
|                             |                     |                                 |                         | Gross.      | Net.    |              |                   |
| British.....                | 40                  | 144,707                         | 178,342                 | 222,860     | 139,754 | \$176,889 82 | 204,298           |
| Chilean.....                | 3                   | 4,883                           | 8,406                   | 10,341      | 6,193   | 6,103 75     | 1,189             |
| Danish.....                 | 1                   | 4,207                           | 5,286                   | 5,296       | 3,325   | 5,258 75     | 4,851             |
| Dutch.....                  | 4                   | 13,076                          | 19,092                  | 21,057      | 13,100  | 16,345 00    | 17,225            |
| French.....                 | 3                   | 8,536                           | 9,711                   | 13,191      | 8,370   | 10,244 50    | 5,976             |
| German.....                 | 3                   | 6,338                           | 9,341                   | 10,726      | 6,286   | 7,922 50     | 7,245             |
| Italian.....                | 2                   | 6,057                           | 8,039                   | 10,536      | 6,122   | 7,571 25     | 1,815             |
| Japanese.....               | 7                   | 28,333                          | 33,229                  | 42,644      | 27,565  | 35,250 00    | 48,015            |
| Mexican.....                | 1                   | 721                             | 919                     | 1,415       | 859     | 661 68       |                   |
| Norwegian.....              | 6                   | 20,276                          | 23,915                  | 30,279      | 18,855  | 25,147 40    | 35,537            |
| Peruvian.....               | 3                   | 3,708                           | 7,750                   | 12,325      | 6,031   | 4,635 00     | 1,043             |
| Swedish.....                | 2                   | 3,593                           | 5,418                   | 6,002       | 4,441   | 4,491 25     | 2,291             |
| United States.....          | 59                  | 228,417                         | 285,265                 | 355,747     | 226,798 | 277,912 92   | 343,913           |
| Totals, May, 1922.....      | 134                 | 472,852                         | 594,713                 | 742,419     | 467,705 | 578,433 82   | 673,398           |
| Totals, April, 1922.....    | 121                 | 409,406                         | 520,688                 | 650,055     | 410,266 | 505,319 46   | 562,433           |
| Totals, May, 1921.....      | 100                 | 334,894                         | 414,429                 | 529,408     | 334,322 | 412,934 09   | 381,323           |
| From Pacific to Atlantic.   |                     |                                 |                         |             |         |              |                   |
| British.....                | 31                  | 101,036                         | 122,687                 | 160,727     | 99,929  | 122,721 50   | 114,515           |
| Chilean.....                | 2                   | 3,608                           | 6,250                   | 8,333       | 6,086   | 4,510 00     | 984               |
| Danish.....                 | 4                   | 11,990                          | 15,118                  | 18,838      | 12,746  | 14,922 00    | 26,363            |
| Dutch.....                  | 1                   | 1,605                           | 3,123                   | 2,672       | 1,629   | 2,006 25     | 2,856             |
| French.....                 | 3                   | 10,612                          | 11,401                  | 13,818      | 8,700   | 11,970 30    | 5,569             |
| German.....                 | 4                   | 9,019                           | 12,191                  | 13,849      | 8,095   | 11,273 75    | 16,889            |
| Japanese.....               | 4                   | 16,997                          | 17,960                  | 23,411      | 16,439  | 20,718 05    | 25,818            |
| Norwegian.....              | 6                   | 10,072                          | 12,212                  | 15,293      | 9,919   | 12,560 15    | 15,748            |
| Panamanian.....             | 1                   | 14                              | 14                      | 14          | 14      | 10 50        |                   |
| Peruvian.....               | 2                   | 2,504                           | 5,364                   | 7,922       | 3,941   | 3,130 00     | 3,192             |
| Swedish.....                | 2                   | 3,652                           | 5,427                   | 6,118       | 4,469   | 4,565 00     | 8,549             |
| United States.....          | 49                  | 184,722                         | 226,356                 | 284,139     | 182,618 | 228,236 05   | 264,626           |
| Totals, May, 1922.....      | 109                 | 355,831                         | 438,103                 | 555,134     | 354,585 | 436,623 55   | 485,109           |
| Totals, April, 1922.....    | 109                 | 362,526                         | 454,145                 | 569,283     | 362,562 | 447,936 65   | 483,614           |
| Totals, May, 1921.....      | 110                 | 360,002                         | 450,188                 | 563,194     | 358,425 | 422,948 68   | 411,412           |
| Combined traffic both ways. |                     |                                 |                         |             |         |              |                   |
| British.....                | 71                  | 245,743                         | 301,029                 | 383,587     | 239,683 | 299,611 32   | 318,813           |
| Chilean.....                | 5                   | 8,491                           | 14,656                  | 18,674      | 12,279  | 10,613 75    | 2,173             |
| Danish.....                 | 5                   | 16,197                          | 20,404                  | 24,134      | 16,071  | 20,180 75    | 31,214            |
| Dutch.....                  | 5                   | 14,681                          | 22,215                  | 23,729      | 14,735  | 18,351 25    | 20,081            |
| French.....                 | 6                   | 19,148                          | 21,112                  | 27,009      | 17,070  | 22,214 80    | 11,545            |
| German.....                 | 7                   | 15,357                          | 21,532                  | 24,575      | 14,381  | 19,196 25    | 24,134            |
| Italian.....                | 2                   | 6,057                           | 8,039                   | 10,536      | 6,122   | 7,571 25     | 1,815             |

## CLASSIFICATION OF COMMERCIAL TRAFFIC BY NATIONALITY, MAY, 1922—Continued.

| Nationality.                      | No.<br>of<br>ships. | TONNAGE.                        |                         |             |         | Tolls.       | Tons<br>of cargo. |
|-----------------------------------|---------------------|---------------------------------|-------------------------|-------------|---------|--------------|-------------------|
|                                   |                     | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered. |         |              |                   |
|                                   |                     |                                 |                         | Gross.      | Net.    |              |                   |
| * Combined traffic both ways—ctd. |                     |                                 |                         |             |         |              |                   |
| Japanese.....                     | 11                  | 45,330                          | 51,189                  | 66,055      | 44,004  | \$55,968.05  | 73,833            |
| Mexican.....                      | 1                   | 721                             | 919                     | 1,415       | 859     | 661.68       |                   |
| Norwegian.....                    | 12                  | 30,348                          | 36,127                  | 45,572      | 28,774  | 37,707.55    | 51,285            |
| Panamanian.....                   | 1                   | 14                              | 14                      | 14          | 14      | 10.50        |                   |
| Peruvian.....                     | 5                   | 6,212                           | 13,114                  | 20,247      | 9,972   | 7,765.00     | 4,235             |
| Swedish.....                      | 4                   | 7,245                           | 10,845                  | 12,120      | 8,910   | 9,056.25     | 10,840            |
| United States.....                | 108                 | 413,139                         | 511,621                 | 639,886     | 409,416 | 506,148.97   | 608,539           |
| Totals, May, 1922.....            | 243                 | 828,683                         | 1,032,816               | 1,297,553   | 822,290 | 1,015,057.37 | 1,158,507         |
| Totals, April, 1922.....          | 230                 | 771,932                         | 974,833                 | 1,219,338   | 772,828 | 953,256.11   | 1,046,047         |
| Totals, May, 1921.....            | 210                 | 694,896                         | 864,617                 | 1,092,602   | 692,747 | 835,882.77   | 792,735           |

## LATIN-AMERICAN TRAFFIC.

## ATLANTIC TO PACIFIC.

| Nationality.             | No. of ships. | TONNAGE.                  |                   |             |         | Tolls.      | Tons of cargo. |
|--------------------------|---------------|---------------------------|-------------------|-------------|---------|-------------|----------------|
|                          |               | United States equivalent. | Panama Canal net. | Registered. |         |             |                |
|                          |               |                           |                   | Gross.      | Net.    |             |                |
| British.....             | 19            | 53,068                    | 62,539            | 85,547      | 52,512  | \$64,243.87 | 80,250         |
| United States.....       | 11            | 37,466                    | 45,905            | 59,726      | 37,445  | 39,361.12   | 31,407         |
| German.....              | 3             | 6,338                     | 9,341             | 10,726      | 6,286   | 7,922.50    | 7,245          |
| Chilean.....             | 3             | 4,883                     | 8,406             | 10,341      | 6,193   | 6,103.75    | 1,189          |
| Peruvian.....            | 3             | 3,708                     | 7,750             | 12,325      | 6,031   | 4,635.00    | 1,043          |
| Japanese.....            | 2             | 7,248                     | 8,741             | 11,075      | 6,826   | 9,060.00    | 9,876          |
| Italian.....             | 2             | 6,057                     | 8,039             | 10,536      | 6,122   | 7,571.25    | 1,815          |
| Dutch.....               | 2             | 4,236                     | 6,927             | 6,832       | 4,218   | 5,295.00    | 4,884          |
| French.....              | 2             | 4,417                     | 4,935             | 6,772       | 4,347   | 5,095.75    | 795            |
| Swedish.....             | 1             | 1,340                     | 1,399             | 2,257       | 1,583   | 1,675.00    | 1,495          |
| Norwegian.....           | 1             | 881                       | 1,479             | 1,493       | 873     | 1,101.25    | 256            |
| Mexican.....             | 1             | 721                       | 919               | 1,415       | 859     | 661.68      |                |
| Totals, May, 1922.....   | 50            | 130,383                   | 166,380           | 219,045     | 133,295 | 152,726.17  | 140,255        |
| Totals, April, 1922..... | 54            | 147,213                   | 184,541           | 238,391     | 149,176 | 178,585.16  | 166,630        |
| Totals, May, 1921.....   | 44            | 111,120                   | 141,244           | 188,846     | 114,821 | 137,893.60  | 135,262        |

## PACIFIC TO ATLANTIC.

|                          |    |         |         |         |         |             |         |
|--------------------------|----|---------|---------|---------|---------|-------------|---------|
| British.....             | 19 | 45,795  | 55,947  | 75,093  | 46,010  | \$51,443.85 | 45,953  |
| United States.....       | 13 | 40,667  | 49,921  | 64,922  | 40,480  | 49,658.75   | 63,768  |
| German.....              | 4  | 9,019   | 12,191  | 13,849  | 8,195   | 11,373.75   | 16,889  |
| Norwegian.....           | 4  | 4,332   | 5,258   | 6,775   | 4,123   | 5,290.00    | 4,428   |
| French.....              | 2  | 6,244   | 7,032   | 8,570   | 5,371   | 6,727.50    | 168     |
| Danish.....              | 2  | 4,777   | 5,197   | 6,229   | 3,939   | 5,905.75    | 9,497   |
| Chilean.....             | 2  | 3,608   | 6,250   | 8,333   | 6,086   | 4,510.00    | 984     |
| Peruvian.....            | 2  | 2,504   | 5,364   | 7,922   | 3,941   | 3,130.00    | 3,192   |
| Dutch.....               | 1  | 1,605   | 3,123   | 2,672   | 1,629   | 2,006.25    | 2,856   |
| Swedish.....             | 1  | 1,349   | 1,458   | 2,316   | 1,630   | 1,685.25    | 2,700   |
| Totals, May, 1922.....   | 50 | 119,900 | 151,741 | 196,681 | 121,404 | 141,732.10  | 150,435 |
| Totals, April, 1922..... | 48 | 106,178 | 140,959 | 184,303 | 112,161 | 130,237.44  | 163,347 |
| Totals, May, 1921.....   | 57 | 146,917 | 182,164 | 238,836 | 150,240 | 157,245.85  | 116,236 |

A further classification of commercial traffic is shown below:

|                         | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|-------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                         | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels: |                      |                           |              |                      |                           |              |
| Laden.....              | 126                  | 562,530                   | \$555,234.25 | 99                   | 414,135                   | \$416,744.60 |
| Ballast.....            | 8                    | 32,183                    | 23,199.57    | 7                    | 23,891                    | 17,467.20    |
| Tug.....                |                      |                           |              | 1                    | 63                        | 26.25        |
| Launch.....             |                      |                           |              | 1                    | 14                        | 10.50        |
| Warship.....            |                      |                           |              | 1                    | ( )                       | 2,375.00     |
| Totals.....             | 134                  | 594,713                   | 578,433.82   | 109                  | 438,103                   | 436,623.55   |

\* Displacement tonnage of 4,750.

|                      | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|----------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                      | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Steamships.....      | 123                  | 564,126                   | \$549,275.82 | 100                  | 421,656                   | \$418,623.40 |
| Motor ships.....     | 6                    | 27,821                    | 26,235.00    | 3                    | 14,899                    | 13,814.50    |
| Motor schooners..... | 3                    | 998                       | 795.75       | 2                    | 144                       | 157.50       |
| Sailing vessels..... | 1                    | 1,620                     | 2,016.25     | 1                    | 1,327                     | 1,616.40     |
| Tug.....             |                      |                           |              | 1                    | 63                        | 26.25        |
| Warship.....         |                      |                           |              | 1                    | (1)                       | 2,375.00     |
| Barges.....          | 1                    | 148                       | 111.00       |                      |                           |              |
| Launch.....          |                      |                           |              | 1                    | 14                        | 10.50        |
| Totals.....          | 134                  | 594,713                   | 578,433.82   | 109                  | 438,103                   | 436,623.55   |

\* Displacement tonnage of 4,750.

## VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following tabulation:

|                    | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |             |
|--------------------|----------------------|---------------------------|------------|----------------------|---------------------------|-------------|
|                    | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.      |
| British.....       | 3                    | 10,424                    | \$7,509.72 | 4                    | 17,085                    | \$12,301.20 |
| French.....        | 1                    | 854                       | 638.25     | 1                    | 2,096                     | 1,616.25    |
| Mexican.....       | 1                    | 919                       | 661.68     |                      |                           |             |
| United States..... | 3                    | 19,986                    | 14,389.92  | 2                    | 4,710                     | 3,549.75    |
| Totals.....        | 8                    | 32,183                    | 23,199.57  | 7                    | 23,891                    | 17,467.20   |

## NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the past month. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated. This statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these, although paying tolls are not included in the commercial traffic:

|                                                     | Atlantic to Pacific. |                           |            | Pacific to Atlantic. |                           |            |
|-----------------------------------------------------|----------------------|---------------------------|------------|----------------------|---------------------------|------------|
|                                                     | No. of ships.        | Panama Canal net tonnage. | Tolls.     | No. of ships.        | Panama Canal net tonnage. | Tolls.     |
| U. S. naval vessels:                                |                      |                           |            |                      |                           |            |
| Transport.....                                      | 1                    | 3,992                     | \$4,996.00 |                      |                           |            |
| Cruisers.....                                       | 1                    | 4,400                     | 2,200.00   | 1                    | 3,200                     | \$1,600.00 |
| Subchasers.....                                     | 3                    | 108                       | 81.00      |                      |                           |            |
| Tug.....                                            | 1                    | 1,000                     | 500.00     |                      |                           |            |
| Launch.....                                         | 1                    | 10                        | 7.50       |                      |                           |            |
| Battleship.....                                     |                      |                           |            | 1                    | 28,400                    | 14,200.00  |
| Navy supply ship.....                               |                      |                           |            | 1                    | 4,406                     | 5,507.50   |
| Submarines.....                                     | 2                    |                           |            | 2                    | 2,000                     | 1,000.00   |
| U. S. Army transport.....                           | 1                    | 5,388                     | 6,735.00   |                      |                           |            |
| U. S. Coast Guard tug.....                          | 1                    | 74                        | 92.50      |                      |                           |            |
| Commercial vessel with supplies for U. S. Navy..... | 1                    | 5,664                     | 6,796.80   | 1                    | 5,664                     | 6,796.80   |
| Commercial, for repairs.....                        |                      |                           |            | 1                    | 3,524                     | 4,228.80   |
| Vessel of Colombian Government.....                 |                      |                           |            | 1                    | 26                        | 19.50      |
| Launches, etc.....                                  | 6                    | 14                        | 12.75      |                      |                           |            |
| Totals.....                                         | 16                   |                           | 21,415.55  | 8                    |                           | 33,352.60  |

\* Registered net tonnage.

\* Displacement tonnage.

\* Panama Canal net tonnage.

The vessels listed above, as transiting the Canal free of tolls, carried cargo as follows:

|                                     | Tons.  |
|-------------------------------------|--------|
| From Atlantic to Pacific ports..... | 15,067 |
| From Pacific to Atlantic ports..... | 9,061  |

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of May, 1922, are shown in the following tabulations:

|                                                     | Cristotal. | Balboa.   | Total.    |
|-----------------------------------------------------|------------|-----------|-----------|
| Local cargo arriving..... tons.                     | 47,447     | 3,003     | 50,450    |
| Local cargo shipped..... tons.                      | 2,561      | 531       | 3,092     |
| Transit cargo arriving..... tons.                   | 1,156,628  | 1,154,782 | 2,311,410 |
| Transit cargo clearing..... tons.                   | 1,176,818  | 1,164,552 | 2,341,370 |
| Cargo received for transshipment..... tons.         | 25,307     | 207       | 25,514    |
| Cargo transshipped..... tons.                       | 29,665     | 125       | 29,790    |
| Vessels supplied with bunker coal:                  |            |           |           |
| Commercial other than Panama Railroad.....          | 41         | 6         | 47        |
| Panama Railroad vessels.....                        | 4          |           | 4         |
| U. S. Army vessels.....                             | 1          | 1         | 2         |
| Total vessels supplied with coal.....               | 46         | 7         | 53        |
| Coal supplied to above vessels:                     |            |           |           |
| Commercial, other than Panama Railroad..... tons.   | 9,993      | 3,000     | 12,993    |
| Panama Railroad vessels..... tons.                  | 908        |           | 908       |
| U. S. Army vessels..... tons.                       | 1          | 22        | 23        |
| Total coal supplied to vessels..... tons.           | 10,902     | 3,022     | 13,924    |
| Coal issues, miscellaneous:                         |            |           |           |
| Panama Canal departments..... tons.                 | 227        | 45        | 272       |
| U. S. Army, excepting vessels..... tons.            | 286        |           | 286       |
| Individuals and companies..... tons.                | 249        |           | 249       |
| Total issues, miscellaneous..... tons.              | 762        | 45        | 807       |
| Total issues from Panama Canal deposits:            |            |           |           |
| May, 1922..... tons.                                | 11,664     | 3,067     | 14,731    |
| April, 1922..... tons.                              | 19,342     | 7,345     | 26,687    |
| May, 1921..... tons.                                | 36,465     | 968       | 37,433    |
| Coal on hand, June 1, 1922..... tons.               | 128,208    | 14,127    | 142,335   |
| Coal on hand, May 1, 1922..... tons.                | 133,395    | 17,194    | 150,589   |
| Coal received during the month..... tons.           | 6,477      |           | 6,477     |
| Fuel oil issues:                                    |            |           |           |
| Panama Canal departments..... bbls.                 | 4,679      | 14,448    | 19,127    |
| Panama Railroad Company..... bbls.                  | 714        |           | 714       |
| Army and Navy..... bbls.                            | 152        |           | 152       |
| Individuals and companies..... bbls.                |            | 189       | 189       |
| Total issues and sales..... bbls.                   | 5,545      | 14,637    | 20,182    |
| Fuel oil on hand, June 1, 1922..... bbls.           | 26,345     | 44,928    | 71,273    |
| Fuel oil on hand, May 1, 1922..... bbls.            | 31,890     | 59,565    | 91,455    |
| Diesel oil issued during May, 1922..... bbls.       | 208        |           | 208       |
| Diesel oil on hand, May 1, 1922..... bbls.          | 50,731     | 895       | 51,626    |
| Diesel oil on hand, June 1, 1922..... bbls.         | 50,523     | 895       | 51,418    |
| Oil pumped for individuals and companies..... bbls. | 627,511    | 67,458    | 694,969   |
| Miscellaneous transfers..... bbls.                  | 5,819      | 12,621    | 18,440    |
| Total oil handled..... bbls.                        | 639,083    | 94,716    | 733,799   |
| Admeasurement certificates:                         |            |           |           |
| United States equivalent issued or made.....        | 28         | 2         | 30        |
| Measured for Panama Canal net tonnage.....          | 2          | 1         | 3         |
| Remeasured for Panama Canal net tonnage.....        | 19         |           | 19        |
| Panama Canal net tonnage corrected.....             | 15         | 6         | 21        |
| United States equivalent tonnage corrected.....     | 18         | 6         | 24        |
| Services of harbor equipment:                       |            |           |           |
| Tugs, total operating hours.....                    | 361        | 281       | 642       |
| Launches, total operating hours.....                | 1,149      | 1,052     | 2,201     |
| Vessels repaired at Panama Canal shops:             |            |           |           |
| Commercial.....                                     | 38         | 17        | 55        |
| Government.....                                     | 4          | 3         | 7         |
| Canal equipment.....                                | 9          | 12        | 21        |
| Vessels dry-docked:                                 |            |           |           |
| Commercial.....                                     | 4          | 1         | 5         |
| Canal equipment.....                                | 2          | 2         | 4         |
| Clearances issued.....                              | 156        | 140       | 296       |
| Bills of health issued.....                         | 151        | 141       | 292       |



## ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during May, 1922:

|                                                                | Port of Cristobal. |                   |                 | Port of Balboa. |                   |                 |
|----------------------------------------------------------------|--------------------|-------------------|-----------------|-----------------|-------------------|-----------------|
|                                                                | No. of ships.      | Tonnage.          |                 | No. of ships.   | Tonnage.          |                 |
|                                                                |                    | Registered gross. | Registered net. |                 | Registered gross. | Registered net. |
| <b>Ships entering.</b>                                         |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting Canal.                 | 295                | 1,577,336         | 1,006,799       | 261             | 1,390,205         | 894,547         |
| Vessels entering the port but not transiting Canal.            | 54                 | 256,017           | 154,089         | 7               | 30,683            | 19,319          |
| Vessels transiting the Canal and handling passengers or cargo. | 55                 | 238,103           | 146,056         | 45              | 161,312           | 100,135         |
| <b>Ships clearing.</b>                                         |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting Canal.                 | 304                | 1,627,121         | 1,040,167       | 259             | 1,379,364         | 888,216         |
| Vessels entering port but not transiting the Canal.            | 57                 | 268,235           | 162,472         | 4               | 23,955            | 15,681          |
| Vessels transiting the Canal and handling passengers or cargo. | 69                 | 267,333           | 164,179         | 46              | 166,183           | 103,185         |

## MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of May, 1922:

|                                    | At Cristobal. |         |        | At Balboa.   |         |        |
|------------------------------------|---------------|---------|--------|--------------|---------|--------|
|                                    | First class.  | Others. | Total. | First class. | Others. | Total. |
| <b>Disembarking:</b>               |               |         |        |              |         |        |
| From Atlantic ports.               | 850           | 356     | 1,206  | 4            | 13      | 17     |
| From Pacific ports.                | 214           | 36      | 250    | 166          | 42      | 208    |
| Total disembarking.                | 1,064         | 392     | 1,456  | 170          | 55      | 225    |
| <b>Embarking:</b>                  |               |         |        |              |         |        |
| For Atlantic ports.                | 1,366         | 1,269   | 2,635  | 2            |         | 2      |
| For Pacific ports.                 | 189           | 72      | 261    | 193          | 91      | 284    |
| Total embarking.                   | 1,555         | 1,341   | 2,896  | 195          | 91      | 286    |
| <b>Remaining on board vessels:</b> |               |         |        |              |         |        |
| From Atlantic to Pacific ports.    | 329           | 1,054   | 1,383  | 347          | 1,005   | 1,352  |
| From Pacific to Atlantic ports.    | 764           | 848     | 1,612  | 982          | 837     | 1,869  |
| From Atlantic to Atlantic ports.   | 269           | 70      | 339    |              |         |        |
| From Pacific to Pacific ports.     |               |         |        | 28           | 505     | 533    |
| Total remaining on board.          | 1,362         | 1,972   | 3,334  | 1,357        | 2,397   | 3,754  |
| Total passengers arriving.         | 2,426         | 2,364   | 4,790  | 1,527        | 2,452   | 3,979  |
| Total passengers departing.        | 2,917         | 3,313   | 6,230  | 1,552        | 2,483   | 4,040  |

## COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of May, 1922:

|                               | Ice.     | Groceries. | Cold storage. | Laundry.   | Miscellaneous. | Total.    |
|-------------------------------|----------|------------|---------------|------------|----------------|-----------|
| <b>Sales at Cristobal to:</b> |          |            |               |            |                |           |
| U. S. Government vessels.     | \$125.00 | \$38.01    | \$653.07      |            | \$41.60        | \$857.71  |
| Panama Railroad vessels.      | 24.00    | 406.79     | 4,096.86      |            | 747.17         | 5,274.82  |
| Other commercial vessels.     | 1,111.61 | 2,258.20   | 12,417.94     |            | 462.24         | 16,249.99 |
| Total sales, May, 1922        | 1,260.61 | 2,703.03   | 17,167.87     |            | 1,251.01       | 22,332.52 |
| Total sales, April, 1922      | 1,545.13 | 4,140.21   | 21,009.23     |            | 1,710.27       | 28,404.84 |
| Total sales, May, 1921        | 3,419.41 | 5,634.93   | 34,758.41     | \$3,761.39 | 2,657.87       | 40,231.01 |
| <b>Sales at Balboa to:</b>    |          |            |               |            |                |           |
| U. S. Government vessels.     | 254.23   | 1,418.03   | 4,466.01      | 36.03      | 225.68         | 6,399.98  |
| Commercial vessels.           | 265.33   | 238.61     | 2,445.97      | 410.94     | 401.09         | 3,761.94  |
| Total sales, May, 1922        | 519.56   | 1,656.64   | 6,911.98      | 446.97     | 626.77         | 10,161.92 |
| Total sales, April, 1922      | 656.33   | 2,700.85   | 15,023.45     | 1,013.73   | 794.70         | 20,189.06 |
| Total sales, May, 1921        | 948.16   | 7,444.72   | 18,177.70     | 1,433.46   | 554.36         | 28,558.40 |

## LOCK OPERATION.

The following tabulations give the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, for the month of May, 1922, as compared with the preceding month, and the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                                  | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|----------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                  | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                       | 107         | 126    | 233    | 8              | 5      | 13     | 246          |
| Pedro Miguel.....                | 105         | 132    | 237    | 13             | 16     | 29     | 266          |
| Miraflores.....                  | 106         | 129    | 235    | 16             | 10     | 26     | 261          |
| Total lockages, May, 1922.....   | 318         | 387    | 705    | 37             | 31     | 68     | 773          |
| Total lockages, April, 1922..... | 314         | 353    | 667    | 43             | 34     | 77     | 744          |
| Total lockages, May, 1921.....   | 321         | 284    | 605    | 30             | 46     | 76     | 681          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                 | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|---------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                 | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                      | 116         | 138    | 254    | 15             | 17     | 32     | 286          |
| Pedro Miguel.....               | 109         | 133    | 242    | 24             | 30     | 54     | 296          |
| Miraflores.....                 | 109         | 133    | 242    | 23             | 23     | 46     | 288          |
| Total vessels, May, 1922.....   | 334         | 404    | 738    | 62             | 70     | 132    | 870          |
| Total vessels, April, 1922..... | 335         | 375    | 710    | 84             | 75     | 159    | 869          |
| Total vessels, May, 1921.....   | 338         | 304    | 642    | 75             | 119    | 194    | 836          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                            | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------|--------|---------------|-------------|
| Army and Navy vessels..... | 16     | 17            | 16          |
| Canal equipment.....       | 16     | 37            | 30          |
| Total noncommercial.....   | 32     | 54            | 46          |

The total consumption of water for lockages, loss in leakage, and for maintenance, was as follows:

|                                     | Gatun.             | Pedro Miguel.      | Miraflores.        |
|-------------------------------------|--------------------|--------------------|--------------------|
|                                     | <i>Cubic feet.</i> | <i>Cubic feet.</i> | <i>Cubic feet.</i> |
| Lockages.....                       | 985,460,000        | 891,290,000        | 756,700,000        |
| Leakage.....                        | 20,000,000         | 17,000,000         | 20,000,000         |
| Total consumption, May, 1922.....   | 1,005,460,000      | 908,290,000        | 876,700,000        |
| Total consumption, April, 1922..... | 913,900,000        | 915,390,000        | 769,620,000        |
| Total consumption, May, 1921.....   | 815,200,000        | 755,850,000        | 770,990,000        |

## METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of May, 1922, are shown in comparative form:

| Rainfall.                                         | May,<br>1922.   | May,<br>1921.   | May—Years of record. |                 |                 |
|---------------------------------------------------|-----------------|-----------------|----------------------|-----------------|-----------------|
|                                                   |                 |                 | Maximum.             | Minimum.        | Mean.           |
|                                                   | <i>Inches.</i>  | <i>Inches.</i>  | <i>Inches.</i>       | <i>Inches.</i>  | <i>Inches.</i>  |
| Total rainfall for month:                         |                 |                 |                      |                 |                 |
| Pacific Section.....                              | 10.50           | 7.85            | 12.13                | 4.95            | 9.18            |
| Central Section.....                              | 11.91           | 7.15            | 16.05                | 6.31            | 10.92           |
| Atlantic Section.....                             | 13.69           | 13.18           | 22.24                | 4.54            | 13.74           |
| Over Gatun Lake watershed.....                    | 13.73           | 9.15            | 17.88                | 6.18            | 11.82           |
| Over Chagres River watershed above Alhajuela..... | 16.90           | 11.47           | 20.51                | 5.69            | 12.65           |
| Maximum recorded for month at any one point.....  | 25.48           | 14.08           | 30.51                |                 |                 |
| Minimum recorded for month at any one point.....  | 4.54            | 3.79            |                      | 1.60            |                 |
| Maximum recorded on any one day.....              | 4.45            | 4.30            | 10.86                |                 |                 |
| <i>Hydrography.</i>                               | <i>C. f. s.</i> | <i>C. f. s.</i> | <i>C. f. s.</i>      | <i>C. f. s.</i> | <i>C. f. s.</i> |
| Discharge of Chagres River at Alhajuela.....      | 1,999           | 1,091           | 5,220                | 491             | 2,220           |
| Maximum momentary discharge for month.....        | 29,100          | 8,400           | 170,000              |                 |                 |
| Gatun Lake watershed total yield.....             | 5,154           | 2,109           | 8,665                | 1,417           | 4,885           |
| Gatun Lake watershed net yield.....               | 4,605           | 2,109           | 7,964                | 583             | 4,306           |
| Draft on Gatun Lake for lockages and power.....   | 2,017           | 2,056           | 2,056                | 1,067           | 1,684           |

\* Maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello, December 28–29, 1909.

\* Maximum momentary discharge of record. Occurred December 26, 1909.

\* Not including May, 1914.

## SEISMOLOGY.

Slight seismic tremors were recorded on the Balboa Heights seismographs on the 22d, 23d, 25th, and 28th of the month. The approximate distances ranged from 100 to 140 miles.

## ELECTRICAL DIVISION.

## POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

|                                                                                        | May,<br>1922. | April,<br>1922. | May,<br>1921. |
|----------------------------------------------------------------------------------------|---------------|-----------------|---------------|
| Gross output, K. W. H.:                                                                |               |                 |               |
| Gatun hydroelectric station.....                                                       | 4,402,100     | 4,471,000       | 5,316,900     |
| Miraflores steam plant.....                                                            | 630           | 250             | 2,350         |
| Combined gross output.....                                                             | 4,402,730     | 4,471,250       | 5,319,250     |
| Power distributed to consumers..... KWH..                                              | 3,712,543     | 3,743,444       | 4,413,164     |
| Loss of power in plant auxiliaries, transmission and transmission formation..... KWH.. | 690,187       | 727,806         | 905,986       |
| Per cent of loss of power to gross output.....                                         | 15.67         | 16.27           | 17.03         |
| Water consumption..... cubic feet..                                                    | 3,535,378,063 | 3,589,299,030   | 3,990,308,000 |
| Oil consumption..... barrels..                                                         | 1,925         | 2,009           | 2,350         |

Miscellaneous electrical repairs and installations of electrical equipment were made on 11 vessels during the month. There were 298 work orders issued for work to be performed by the Electrical Division during the month, as compared with 257 for April, 1922.

## SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 51 vessels at Cristobal and 32 vessels at Balboa. Of these, 6 were placed in dry dock at Cristobal and 3 at Balboa. The more important repair work carried out was as follows:

Barge No. 26 was cleaned, scaled, bottom and hopper painted, and miscellaneous repairs made. Dredge No. 86 was docked, the spud wells changed from round to square, and good progress was made on the remaining repairs.

All work on the ship's bottom incidental to conversion of the tug *Favorite* into an oil burner was completed during the month and the vessel removed from dry dock. It is expected that the oil tanks will be completed and the remaining installation made so that the vessel will be ready for service the latter part of June.

The *Lady Sybil* was docked, cleaned, painted and a periodic general overhaul given her for her owners.

The output of the foundry in patterns and castings for the month of May was as follows:

|                 | April, 1922. |           |         | May, 1922. |           |         |
|-----------------|--------------|-----------|---------|------------|-----------|---------|
|                 | Patterns.    | Castings. | Pounds. | Patterns.  | Castings. | Pounds. |
| Iron.....       | 7            | 144       | 13,383  | 3          | 243       | 9,815   |
| Steel.....      | 3            | 30        | 27,625  | 1          | 14        | 29,246  |
| Nonferrous..... | 4            | 86        | 1,903   | 4          | 326       | 6,069   |

The following is a statement of all job and blanket orders issued and completed during the month:

|                     | Uncompleted,<br>May 1. | Authorized<br>in May. | Completed<br>in May. | Uncompleted<br>May 31. |
|---------------------|------------------------|-----------------------|----------------------|------------------------|
| Job orders.....     | 255                    | 382                   | 360                  | 277                    |
| Blanket orders..... | 361                    |                       | 11                   | 350                    |

#### DREDGING DIVISION.

Cucaracha and Barge Repair slides have shown no movement during the month. West Culebra slide continues to show some movement, determined by a resurvey of the base line along this slide. There was also a slight movement along the face of East Culebra slide. There was no interference with Canal traffic from slides during the month.

The total excavation for May, 1922, including earth and rock, was 304,300 cubic yards, as follows:

| Cubic<br>yards. | Classified as— |        | Character<br>of work. | Stations.                                                              | Equipment        |
|-----------------|----------------|--------|-----------------------|------------------------------------------------------------------------|------------------|
|                 | Earth.         | Rock.  |                       |                                                                        |                  |
| 5,350           | 1,350          | 4,000  | Maintenance.....      | <i>Gaillard Cut, East Cul. bra.</i><br>1780-50 to 1781-50 E.....       | <i>Paraíso.</i>  |
| 25,150          | 24,600         | 10,550 | Maintenance.....      | 1780-50 to 1784-00 E.....                                              | <i>Gamboa.</i>   |
| 36,800          | 17,709         | 19,100 | Maintenance.....      | <i>Gaillard Cut, Barge Repair.</i><br>1723-50 to 1740-50 E. and W..... | <i>Gamb. a.</i>  |
| 24,300          | 6,800          | 17,500 | Maintenance.....      | 1746-50 to 1738-60 E. and W.....                                       | <i>Paraíso.</i>  |
| 36,300          |                | 36,300 | Maintenance.....      | <i>Pacific Entrance, Miraflores P. I.</i><br>20S1-80 to 2093-80 W..... | <i>Cascadas.</i> |
| 8,400           | 3,200          | 5,200  | Maintenance.....      | <i>Pacific Entrance.</i><br>2179-30 to 2193-00 W.....                  | <i>Cascadas.</i> |
| 67,000          | 67,000         |        | Maintenance.....      | 2120-50 to 2118-60 W.....                                              | <i>Cascadas.</i> |
| 91,000          | 91,000         |        | Maintenance.....      | 2334-00 to 2341-00 E.....                                              | <i>No. 84.</i>   |
|                 |                |        |                       | 2131-40 to 2149-40 C. L. W.....                                        | <i>No. 84.</i>   |
| 304,300         | 211,650        | 92,650 |                       |                                                                        |                  |

The material excavated at the various stations was disposed of as follows:

|                                                       | Cubic<br>yards. |
|-------------------------------------------------------|-----------------|
| Dumped north of Gamboa.....                           | 101,600         |
| Dumped on flats, west of Canal, Pacific entrance..... | 91,090          |
| Dumped on flats, east of Canal, Pacific entrance..... | 67,000          |
| Dumped at sea, Pacific entrance.....                  | 44,700          |
| Total.....                                            | 204,300         |

#### MUNICIPAL ENGINEERING DIVISION.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels, are shown below in comparative form.

|                                    | May,<br>1922.                  | April,<br>1922.                | May,<br>1921.                  |
|------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Pumping stations.....              | <i>Gallons.</i><br>654,853,000 | <i>Gallons.</i><br>658,810,000 | <i>Gallons.</i><br>758,324,750 |
| Filtration plants.....             | 379,450,000                    | 380,175,000                    | 472,832,000                    |
| Water consumed by Panama City..... | 85,936,000                     | 78,703,000                     | 100,896,000                    |
| Water consumed by Colon.....       | 62,468,500                     | 58,159,750                     | 59,217,750                     |
| Sales of water to vessels.....     | 8,493,096                      | 10,616,628                     | 9,975,647                      |



## VITAL STATISTICS.

A total of 145 deaths occurred during the month of May, 1922, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to an annual death rate of 14.18 per thousand. The 3 leading causes of death were pneumonia, tuberculosis, and diarrhea and enteritis; these 3 diseases caused 35 per cent of all deaths from disease. There was 1 death from malaria and 1 from dysentery. Of the total deaths, 46, or 32 per cent, occurred among children under 5 years of age. There were 8 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 287 live births reported during the month, and 17 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 29.74 per thousand population. Deaths among children under 1 year of age numbered 29, giving an infant mortality rate, based on the number of births reported for May, of 101.05 per thousand live births.

Ninety-nine cases of malaria were reported during the month, of which 17 were employees and 82 nonemployees. These malaria cases originated as follows: Colon, 6; Canal Zone 72; and outside of the Canal Zone, 21.

Among other diseases reported during the month were 1 case of smallpox from the interior, 1 case of trachoma (soldier) and 3 cases of relapsing fever, contracted in the interior.

## SCHOOLS.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone, for the month of May, 1922:

|                                      | White. | Colored. | Total. |
|--------------------------------------|--------|----------|--------|
| Gross enrollment.....                | 2,075  | 1,856    | 3,931  |
| Net enrollment.....                  | 1,894  | 1,806    | 3,700  |
| Average daily attendance.....        | 1,441  | 1,302    | 2,743  |
| Pupils neither absent nor tardy..... | 771    | 454      | 1,225  |
| Number of cases of tardiness.....    | 314    | 67       | 381    |
| Number of teachers.....              | 77     | 32       | 109    |

## OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                          | As of May 31, 1922. |        |           |        | Total occupants. |            |
|--------------------------|---------------------|--------|-----------|--------|------------------|------------|
|                          | Men.                | Women. | Children. | Total. | April, 1922.     | May, 1921. |
| Americans.....           | 2,332               | 1,868  | 2,039     | 6,239  | 6,347            | 7,828      |
| Europeans.....           | 113                 | 40     | 91        | 244    | 234              | 273        |
| West Indians.....        | 3,915               | 2,584  | 5,643     | 12,142 | 12,311           | 11,819     |
| Totals, May, 1922.....   | 6,360               | 4,492  | 7,773     | 18,625 |                  |            |
| Totals, April, 1922..... | 6,549               | 4,502  | 7,841     |        | 18,892           |            |
| Totals, May, 1921.....   | 7,981               | 4,532  | 7,407     |        |                  | 19,920     |

## WORKING FORCE—NUMBER OF EMPLOYEES.

The following tabulation shows the number of gold and silver employees as of May 17, 1922, by departments, together with a comparison of the working force for the preceding month and that of May, 1921:

|                            | Employees as of May 17, 1922. |         |        | Total employees. |            |
|----------------------------|-------------------------------|---------|--------|------------------|------------|
|                            | Gold.                         | Silver. | Total. | April, 1922.     | May, 1921. |
| Operation and Maintenance: |                               |         |        |                  |            |
| Office.....                | 29                            | 56      | 85     | 84               | 77         |
| Electrical.....            | 148                           | 159     | 307    | 311              | 441        |
| Municipal Engineering..... | 71                            | 495     | 566    | 600              | 862        |
| Lock Operation.....        | 167                           | 559     | 726    | 849              | 832        |
| Dredging.....              | 131                           | 592     | 723    | 757              | 929        |
| Mechanical.....            | 318                           | 553     | 871    | 838              | 1,659      |
| Marine.....                | 154                           | 364     | 518    | 511              | 653        |
| Fortification.....         | 42                            | 253     | 295    | 341              | 302        |
| Totals.....                | 1,060                         | 3,031   | 4,091  | 4,291            | 5,760      |

|                                      | Employees as of<br>May 17, 1922. |         |        | Total employees. |               |
|--------------------------------------|----------------------------------|---------|--------|------------------|---------------|
|                                      | Gold.                            | Silver. | Total. | April,<br>1922.  | May,<br>1921. |
| Supply Department:                   |                                  |         |        |                  |               |
| Transportation.....                  | 30                               | 140     | 170    | 173              | 1,936         |
| Quartermaster.....                   | 138                              | 829     | 967    | 929              | 357           |
| Subsistence.....                     | 5                                | 76      | 81     | 226              | 1,462         |
| Commissary.....                      | 162                              | 748     | 910    | 950              | 180           |
| Cattle Industry—Plantations.....     | 7                                | 385     | 392    | 356              | 96            |
| Hotel Washington.....                | 8                                | 84      | 92     | 94               |               |
| Totals.....                          | 350                              | 2,262   | 2,612  | 2,728            | 4,031         |
| Accounting Department.....           | 176                              | 7       | 183    | 181              | 234           |
| Health Department.....               | 214                              | 723     | 942    | 961              | 1,082         |
| Executive Department.....            | 498                              | 246     | 744    | 739              | 829           |
| Totals.....                          | 888                              | 981     | 1,869  | 1,881            | 2,145         |
| Panama Railroad:                     |                                  |         |        |                  |               |
| Superintendent.....                  | 47                               | 208     | 255    | 207              | 426           |
| Transportation.....                  | 66                               | 100     | 166    | 175              | 241           |
| Receiving and Forwarding Agency..... | 62                               | 721     | 783    | 611              | 559           |
| Coaling Stations.....                | 84                               | 412     | 496    | 585              | 675           |
| Totals.....                          | 259                              | 1,441   | 1,700  | 1,668            | 1,901         |
| Grand totals, May, 1922.....         | 2,557                            | 7,715   | 10,272 |                  |               |
| Grand totals, April, 1922.....       | 2,598                            | 7,940   |        | 10,568           |               |
| Grand totals, May, 1921.....         | 3,571                            | 10,266  |        |                  | 13,837        |

<sup>1</sup> Including 376 employees of old Building Division.

<sup>2</sup> The number of employees, as shown above, is the smallest force employed on the Canal since the middle of 1905.

#### RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, cash sales from stock, etc., are shown below in comparative form.

|                                                                         | May,<br>1922. | April,<br>1922. | May,<br>1921. |
|-------------------------------------------------------------------------|---------------|-----------------|---------------|
| Material received on United States requisitions, chargeable as follows: |               |                 |               |
| Operation and maintenance.....                                          | \$141,414.67  | \$97,145.92     | \$261,522.18  |
| Construction and equipment.....                                         |               |                 | 1,626.40      |
| Miscellaneous.....                                                      | 1,642.87      | 1,611.94        | 8,679.84      |
| Totals.....                                                             | 143,057.54    | 98,757.86       | 271,828.42    |
| Cash sales on the Isthmus:                                              |               |                 |               |
| Stock.....                                                              | 20,772.75     | 31,649.39       | 36,066.36     |
| Fuel oil.....                                                           | 305.85        | 25.49           | 173.25        |
| Scrap.....                                                              | 769.24        | 521.37          | 649.73        |
| Obsolete and second-hand material.....                                  | 3,528.02      | 2,391.96        | 1,939.87      |
| Totals.....                                                             | 25,375.86     | 34,585.12       | 38,829.21     |
| Sales to steamships from storehouses.....                               | 6,007.31      | 14,564.20       | 21,336.62     |

Respectfully,

JAY J. MORROW,

Governor.

#### Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., June 21, 1922.

The Master of the steamship *Columbia* reports sighting, at 12.30 p. m., G. M. T., June 20, a floating log, 30 feet long, with branches protruding 10 feet under and over water. Lat. 10° 10' N., Long. 85° 58' W. Dangerous to navigation.

JAY J. MORROW,

Governor.

**Notice to Mariners.—Aids to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 20, 1922.

The Minister of Marine, Peru, advises under date of May 16, 1922, as below:  
"There has been installed in the port of Callao one whistling buoy with white sparkling light 2,800 meters to the North 321° of the old lighthouse of the extreme North in the Island of San Lorenzo.

*Description*—The luminous apparatus is located on a tripod placed on a cylindrical buoy painted RED.

*Position*—Lat. 12° 02'—39" S.  
Long. 77° 16'—25" W. G.

*Characteristic*—Three seconds light, 2.7 seconds darkness. Sound (of whistling), intermittent.

**NOTE.**—The data of situation corresponds to English Chart No. 1853.

JAY J. MORROW,  
Governor.

**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 26, 1922.

U. S. A. T. *Cambrai*, at 6 a. m., G. M. T., June 25, Lat. 7° 47' N., Long. 83° 20' W., passed a tree 30 feet long, 20 inches in diameter, with projecting limbs. Dangerous to navigation.

JAY J. MORROW,  
Governor.

**Ships at Canal Repair Shops.**

The following vessels were at the Cristobal shops for repairs during the week ended June 25:

Steamship *Heredia*, braze copper pipe; *Crynnsen*, repair winch; *General H. F. Hodges*, overhaul motor of lifeboat on board; *Jamaica*, make 1 key for jacking gear; tug *San Juan*, dock and undock; clean bottom; repair hull; steamships *Felix Taussig*, manufacture new impeller; *Parismina*, braze copper pipe; motor schooner *Laura C. Hall*, repair fuel oil pipe; steamship *Advance*, acetylene weld feed pump head; acetylene weld ash hoist control valve; remove friction No. 2 cargo hoisting engine; repair valve on exhaust column from drain pipe; repair steam pipe on after dynamo; reinstall starboard engine room ventilator on main deck house; realign baker's oven; U. S. Army launch *David Putnam*, dock and undock; calk and copper sheath hull per specifications; U. S. Army, Jr. mine planter *Douglas*, dock and undock; clean bottom, etc.

**Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending June 24, 1922.**

| Name of vessel.    | Line or charterer.                   | Arrived.     | Departed.    | Cargo—     |        |
|--------------------|--------------------------------------|--------------|--------------|------------|--------|
|                    |                                      |              |              | Discharged | Laded. |
|                    |                                      |              |              | Tons.      | Tons.  |
| Anyo Maru.....     | Toyo Kisen Kaisha.....               | June 11..... | June 13..... | 1,014      | 359    |
| Mineoka.....       | Grace Line.....                      | June 11..... | June 11..... |            | 64     |
| Vencuela.....      | Pacific Mail Steamship Co.....       | June 11..... | June 12..... | 53         |        |
| Laura C. Hall..... | Pacific Metals Transp. Co., Ltd..... | June 12..... | June 12..... | 4          |        |
| Kenuta.....        | Pacific Steam Navigation Co.....     | June 14..... | June 14..... |            | 45     |
| Laura C. Hall..... | Pacific Metals Transp. Co., Ltd..... | June 14..... | June 14..... |            | 49     |
| Jamaica.....       | Pacific Steam Navigation Co.....     | June 14..... | June 14..... | 1          |        |
| Manavi.....        | Pacific Steam Navigation Co.....     | June 16..... | June 16..... | 5          |        |
| Ginyo Maru.....    | Toyo Kisen Kaisha.....               | June 16..... | June 16..... |            | 110    |
| Colombia.....      | Pacific Mail Steamship Co.....       | June 17..... | June 17..... | 14         | 51     |
| Manavi.....        | Pacific Steam Navigation Co.....     | June 22..... | June 22..... |            | 30     |
| Rosana.....        | Alberto Falt.....                    | June 24..... |              | 140        |        |
| Lompoe.....        | C. T. Bowring & Co.....              | June 24..... |              | 9,600      |        |
| Santa Ana.....     | Pacific Mail Steamship Co.....       | June 24..... |              | 233        | 3      |

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, June 24, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                        | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                             | Length. | Beam. | Water draft. | From—        | For—          | Cargo.             |        | Panama Canal tonnage. |       |
|------------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|-----------------------------------|---------|-------|--------------|--------------|---------------|--------------------|--------|-----------------------|-------|
|                              | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                   |         |       |              |              |               | Nature.            | Tons.  | Gross.                | Net.  |
| Chateau Thierry <sup>1</sup> | 16               | 16 48 | 18             | 6 08  | 18                 | 12 48 | 18               | 13 50 | American     | U. S. Army                        | 448 0   | 58 0  | 27 0         | New York     | San Francisco | Explosives, etc.   | 2,300  | 3,392 <sup>2</sup>    | 6,015 |
| Colombia                     | 17               | 5 26  | 18             | 8 30  | 18                 | 16 13 | 18               | 21 45 | American     | Pacific Mail Steamship Co.        | 380 0   | 47 0  | 24 8         | Baltimore    | San Francisco | General            | 8,322  | 6,251                 | 4,700 |
| Atlantic Maru                | 17               | 5 26  | 18             | 8 30  | 18                 | 16 13 | 18               | 21 45 | Japanese     | Kabushiki Kaisha, K. K.           | 385 0   | 51 0  | 20 0         | New York     | Yokohama      | General            | 7,525  | 6,251                 | 4,700 |
| Frogner                      | 18               | 13 45 | 19             | 7 15  | 19                 | 13 10 | 19               | 16 25 | Norwegian    | Fearnley Eger & Co.               | 407 1   | 53 8  | 24 7         | Baltimore    | Yokohama      | Steel and iron     | 8,225  | 7,010                 | 5,310 |
| Behre                        | 18               | 14 45 | 19             | 7 15  | 19                 | 13 10 | 19               | 16 25 | American     | Ore Steamship Co.                 | 550 1   | 72 0  | 31 0         | New York     | Cruz Grande   | Ballast            | 15,476 | 11,102                |       |
| Renato                       | 19               | 2 58  | 19             | 10 37 | 19                 | 16 23 | 19               | 18 55 | Chilean      | South American Steamship Co.      | 412 0   | 52 0  | 24 0         | Liverpool    | Valparaiso    | General and coal   | 2,672  | 6,059                 | 3,442 |
| Yngaren                      | 18               | 22 15 | 19             | 10 37 | 19                 | 16 23 | 19               | 18 55 | Swedish      | Transatlantic Company             | 432 0   | 52 0  | 25 0         | New York     | Los Angeles   | General and coke   | 8,404  | 6,972                 | 5,122 |
| All-America                  | 19               | 4 43  | 19             | 8 00  | 20                 | 17 45 | 20               | 16 15 | American     | U. S. Steel Products Co.          | 278 4   | 37 0  | 19 6         | New York     | Batavia       | Cable supplies     | 1      | 1,919                 | 875   |
| Mobile City                  | 19               | 16 57 | 20             | 8 00  | 20                 | 17 45 | 20               | 16 15 | American     | U. S. Steel Products Co.          | 278 4   | 37 0  | 19 6         | New York     | Batavia       | General, steel     | 8,950  | 7,330                 | 5,241 |
| Victorious                   | 19               | 16 57 | 20             | 8 00  | 20                 | 17 45 | 20               | 16 15 | American     | U. S. Steel Products Co.          | 278 4   | 37 0  | 19 6         | New York     | Batavia       | General, steel     | 8,929  | 8,328                 | 6,036 |
| Liss                         | 20               | 4 20  | 20             | 9 00  | 20                 | 17 07 | 20               | 17 30 | Norwegian    | Tampa Intercean S. S. Co. (S. B.) | 440 2   | 58 0  | 23 8         | New Orleans  | Yokohama      | Kerosene           | 8,238  | 6,147                 | 4,065 |
| Soume <sup>1</sup>           | 20               | 8 32  | 20             | 9 35  | 20                 | 18 14 | 21               | 19 53 | American     | Arthur W. Matheson                | 440 0   | 58 0  | 27 0         | New York     | San Francisco | Army supplies      | 1,784  |                       |       |
| Kalkoura                     | 20               | 12 37 | 20             | 12 50 | 20                 | 19 48 | 20               | 22 10 | American     | New Zealand Shipping Co.          | 400 0   | 56 0  | 23 10        | Liverpool    | Auckland      | General            | 6,900  | 9,057                 | 6,438 |
| Archer                       | 20               | 5 06  | 20             | 13 00 | 20                 | 20 55 | 20               | 22 10 | British      | Barber Line (S. B.)               | 418 0   | 58 0  | 27 0         | New York     | Yokohama      | General, case oil  | 9,814  | 8,315                 | 6,100 |
| Robin Gray                   | 20               | 16 16 | 21             | 6 15  | 21                 | 13 50 | 21               | 14 55 | American     | Seas Shipping Co.                 | 421 8   | 55 0  | 28 5         | Baltimore    | Los Angeles   | General            | 9,622  | 7,472                 | 5,542 |
| Santa Elisa                  | 20               | 19 35 | 21             | 7 35  | 21                 | 14 33 | 21               | 17 30 | American     | Grace Line                        | 360 3   | 51 7  | 24 0         | New York     | Talaburno     | General            | 3,472  | 5,957                 | 4,325 |
| Delco                        | 20               | 21 32 | 21             | 7 35  | 21                 | 16 05 | 21               | 17 15 | American     | Delco Steamship Co.               | 338 0   | 46 0  | 24 0         | New Orleans  | Talaburno     | General            | 4,769  | 3,795                 | 2,660 |
| crus                         | 20               | 21 32 | 21             | 7 35  | 21                 | 16 05 | 21               | 17 15 | American     | Wessel Duval & Co. (S. B.)        | 383 2   | 53 1  | 23 8         | New York     | Talaburno     | General and coal   | 6,188  | 5,067                 | 4,227 |
| Manavi                       | 21               | 10 20 | 21             | 10 40 | 21                 | 17 33 | 22               | 16 40 | British      | Pacific Steam Navigation Co.      | 366 0   | 35 1  | 13 0         | Cristobal    | Guayaquil     | General            | 351    | 1,357                 | 884   |
| Hualaga                      | 21               | 16 38 | 22             | 7 14  | 22                 | 14 40 | 22               | 15 45 | Peruvian     | Peruvian Line                     | 219 0   | 44 7  | 20 6         | Cristobal    | Callao        | General            | 579    | 4,514                 | 2,386 |
| bach                         | 21               | 18 06 | 22             | 8 55  | 22                 | 15 46 | 22               | 16 10 | American     | Luckenbach Line                   | 446 0   | 57 0  | 25 0         | New York     | San Francisco | General            | 5,000  | 8,552                 | 6,236 |
| Postler Dollar               | 22               | 13 00 | 22             | 13 10 | 22                 | 19 45 | 22               | 21 17 | British      | C. S. Army                        | 183 0   | 57 0  | 29 6         | New York     | Yokohama      | General            | 4,423  | 9,873                 | 7,140 |
| Cambrai <sup>1</sup>         | 22               | 13 50 | 23             | 6 08  | 23                 | 13 37 | 23               | 14 30 | American     | U. S. Army                        | 448 0   | 58 0  | 26 7         | Brooklyn     | San Francisco | General            | 4,062  |                       |       |
| Lampoe                       | 24               | 11 25 | 24             | 11 32 | 24                 | 18 31 | 24               | 19 31 | British      | C. T. Bowring & Co.               | 435 3   | 55 9  | 27 6         | Tampico      | Shanghai      | Fuel oil           | 9,600  | 7,496                 | 5,311 |
| Blad                         | 24               | 11 50 | 24             | 12 10 | 24                 | 19 32 | 24               | 20 15 | Norwegian    | Camillo Britzen & Co.             | 400 2   | 53 0  | 27 0         | Jacksonville | Shanghai      | Iron, gen., cotton | 7,400  |                       |       |
| Cassia                       | 21               | 7 15  | 24             | 13 10 | 24                 | 20 15 | 24               | 21 21 | American     | Edward L. Doheny                  | 254 0   | 33 0  | 16 0         | New York     | Los Angeles   | Ballast            |        |                       |       |

U. S. Army transport.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Ship.                | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                  | Length. | Beam. | Water draft. | From—         | For—      | Cargo.        |        | Panama Canal tonnage. |       |
|----------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------------------|---------|-------|--------------|---------------|-----------|---------------|--------|-----------------------|-------|
|                      | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                        |         |       |              |               |           | Nature.       | Tons.  | Gross.                | Net.  |
| Dinteldijk           | 17               | 17 35 | 18             | 6 38  | 18                 | 13 50 | 18               | 19 00 | Dutch        | Holland-American Line  | 486 0   | 62 3  | 29 0         | Vancouver     | Antwerp   | General grain | 10,065 | 10,786                | 7,554 |
| Santa Rosa           | 17               | 18 00 | 18             | 7 31  | 18                 | 14 10 | 18               | 17 36 | American     | Grace Line             | 404 6   | 54 0  | 15 6         | San Francisco | Baltimore | Ballast       | 6,754  | 4,780                 |       |
| Arlatine Irene       | 17               | 21 50 | 18             | 8 13  | 18                 | 15 50 | 18               | 16 49 | British      | Arlatine Steamship Co. | 375 0   | 52 0  | 23 0         | San Antonio   | Boston    | Nitrate       | 6,500  | 5,188                 | 3,779 |
| Florida <sup>1</sup> | 19               | 7 17  | 19             | 10 35 | 20                 | 9 10  | 20               | 9 10  | American     | U. S. Navy             | 510 0   | 83 2  | 30 0         | Gatun Lake    | Cristobal |               |        |                       |       |

Bay/leship.

Yacht.



|                  |    |       |          |          |          |           |                                |       |      |      |               |              |       |       |       |
|------------------|----|-------|----------|----------|----------|-----------|--------------------------------|-------|------|------|---------------|--------------|-------|-------|-------|
| Olympia          | 19 | 9 15  | 19 11    | 40 20    | 9 35     | American  | U. S. Navy                     | 349 0 | 43 0 | 14 3 | Gatun Lake    | Cristobal    | 7,242 | 5,865 | 4,427 |
| North Dakota     | 20 | 7 09  | 20 9 10  | 20 9 10  | 9 10     | American  | U. S. Navy                     | 510 0 | 85 0 | 31 0 | Gatun Lake    | Cristobal    | 1,200 | 2,823 | 1,749 |
| Dekware          | 20 | 7 14  | 20 9 30  | 20 9 30  | 9 30     | American  | U. S. Navy                     | 510 0 | 85 0 | 31 6 | Gatun Lake    | Cristobal    | 3,291 | 4,147 | 3,250 |
| City of Bombay   | 20 | 1 30  | 20 16 20 | 20 16 20 | 17 05    | British   | Ellerman Hall Line             | 401 0 | 50 8 | 26 6 | Portland      | Leith        | 9,135 | 5,650 | 4,071 |
| All-America      | 19 | 17 49 | 21 6 24  | 21 13 20 | 22 3 50  | American  | All-America Cable Co.          | 278 4 | 27 0 | 19 6 | Bahia         | Cristobal    | 3,500 | 5,508 | 6,179 |
| Santa Isabel     | 21 | 6 55  | 21 7 55  | 21 11 25 | 21 18 35 | American  | American & Cuban Steamship Co. | 251 0 | 43 0 | 15 6 | San Francisco | Philadelphia | 1,836 | 4,838 | 2,559 |
| Pleades          | 21 | 9 00  | 21 9 38  | 21 16 27 | 21 16 27 | American  | Luckenbach Line                | 331 5 | 47 0 | 21 6 | Seattle       | New Orleans  | 2,943 | 2,388 | 1,730 |
| Cape Ortegal     | 21 | 9 00  | 22 7 43  | 22 15 05 | 22 18 05 | British   | Lyle Steamship Co.             | 403 0 | 52 0 | 24 6 | Portland      | Dublin       | 4,000 | 5,148 | 3,223 |
| Tolluna          | 22 | 3 00  | 22 8 44  | 22 16 03 | 22 16 03 | Norwegian | W. Wilhelmsen                  | 417 8 | 54 0 | 23 0 | Punta Arenas  | New York     | 253   | 3,131 | 3,773 |
| F. J. Luckenbach | 22 | 7 45  | 22 9 10  | 22 16 22 | 22 16 22 | American  | Luckenbach Line                | 446 0 | 56 1 | 23 0 | San Pedro     | Philadelphia | 7,309 | 5,714 | 4,101 |
| Sarpfos          | 20 | 7 00  | 22 11 13 | 22 17 57 | 25 15 08 | Norwegian | Thos. Thoresen's Line          | 254 8 | 33 2 | 16 2 | Guayaquil     | New York     | 6,000 | 6,107 | 4,313 |
| Mantaro          | 23 | 1 30  | 23 8 04  | 23 15 16 | 23 15 16 | Peruvian  | Peruvian Line                  | 307 3 | 46 0 | 17 8 | Il            | Cristobal    | 7,611 | 5,450 |       |
| Azov             | 23 | 1 45  | 23 11 16 | 23 19 13 | 23 21 45 | British   | International Petroleum Co.    | 285 0 | 38 5 | 21 6 | Talara        | New York     |       |       |       |
| Cape Henry       | 23 | 13 20 | 23 1 06  | 23 20 27 | 24 2 09  | American  | Atlantic Gulf & Pacific Co.    | 376 4 | 52 3 | 24 0 | Seattle       | Baltimore    |       |       |       |
| Bologna          | 23 | 13 45 | 23 14 30 | 23 21 42 |          | Italian   | Italian Line                   | 284 0 | 46 0 | 17 0 | Valparaiso    | Genoa        |       |       |       |
| Charlton Hall    | 23 | 18 00 | 24 7 05  | 24 15 10 | 24 15 10 | American  | U. S. Steel Products Co.       | 400 0 | 50 0 | 25 6 | Tocopilla     | Winnington   |       |       |       |
| Cold Harbor      | 23 | 20 00 | 24 7 49  | 24 16 23 | 24 16 23 | American  | U. S. Shipping Board           | 390 0 | 54 0 | 21 6 | Seattle       | Philadelphia |       |       |       |
| Aniston City     | 24 | 14 10 | 24 14 35 | 24 20 22 | 24 20 22 | American  | U. S. Steel Products Co.       | 424 0 | 56 0 | 17 0 | Honolulu      | New York     |       |       |       |

Grain, lumber, and canned goods.

Copper ore, wool, flax, and general.

Crude oil and eastings.

Lumber, canned goods, salmon, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

## ARRIVALS.

| Date.   | Vessel.                       | Line.                           | From—                   | Date.   | Vessel.   | Line.                          | For—                      |
|---------|-------------------------------|---------------------------------|-------------------------|---------|-----------|--------------------------------|---------------------------|
| June 18 | Atenas                        | United Fruit Co.                | New Orleans via Habana. | June 18 | San Bruno | United Fruit Co.               | Boston.                   |
| June 18 | San Bruno                     | United Fruit Co.                | Boston via Port Limon.  | June 19 | Atenas    | United Fruit Co.               | Bocas del Toro.           |
| June 19 | Perou                         | French Line                     | Havre via wayports.     | June 19 | Colon     | Panama Railroad Steamship Line | New York via Haiti.       |
| June 20 | Tolon                         | United Fruit Co.                | New York via Habana.    | June 21 | Crynsen   | Royal Netherlands W. I. Mail   | Port Limon.               |
| June 20 | Heredia                       | United Fruit Co.                | New Orleans.            | June 21 | San Gil   | United Fruit Co.               | Boston via Port Limon.    |
| June 20 | Royal Netherlands W. I. Mail. | United Fruit Co.                | Amsterdam via wayports. | June 21 | Tolosa    | United Fruit Co.               | New Orleans via wayports. |
| June 20 | Asian                         | Ley and Line.                   | Liverpool via wayports. | June 22 | Heredia   | United Fruit Co.               | New Orleans.              |
| June 21 | United Fruit Co.              | Hamburg via wayports.           | Boston via Habana.      | June 22 | Atenas    | United Fruit Co.               | Port Limon.               |
| June 21 | Adala                         | Hanburg-American Line           | Hamburg via wayports.   | June 22 | Adala     | French Line                    | Puerto Colombia.          |
| June 22 | Atenas                        | United Fruit Co.                | Bocas del Toro.         | June 23 | Perou     | Edlers & Tyfies, Ltd.          | Kiunston.                 |
| June 22 | St. Michael                   | U. S. Army.                     | Placfields.             | June 24 | Bayano    | Royal Netherlands W. I. Mail.  | Puerto Colombia.          |
| June 23 | San Juan                      | Royal Netherlands W. I. Mail.   | Port Limon.             |         |           |                                |                           |
| June 23 | Crynsen                       | Panama Railroad Steamship Line. | New York via Haiti.     |         |           |                                |                           |
| June 24 | Gen. W. C. Gorgas.            | El Jers & Tyfies, Ltd           | Port Limon.             |         |           |                                |                           |

## PORT OF BALBOA.

## ARRIVALS.

| Date.   | Vessel. | Line.        | From—         | Date.   | Vessel.  | Line.                 | For—      |
|---------|---------|--------------|---------------|---------|----------|-----------------------|-----------|
| June 24 | Rosana  | Alberto Fuit | Punta Arenas. | June 17 | Suruga   | Barber Line           | Honolulu. |
|         |         |              |               | June 21 | Guardian | All-America Cable Co. | Callao.   |

\*Other than ships passing through the Canal.

### The "Favorite" Ready for Service Again.

The conversion of the salvage tug *Favorite* from coal to oil burning has been completed at Balboa shops, and the vessel is now ready for service. The oil tanks built in the ship have a capacity of 2,400 barrels, estimated to be sufficient for 24 days' steaming at 10 knots. This estimate is based on previous consumption of 24 tons of coal in 24 hours at 10 knots; on the basis that 2 tons of oil are equivalent to 3 tons of coal, the *Favorite* would use about 16 tons of oil, or 103 barrels, a ton consisting of 6.43 barrels. The use of oil will enable the *Favorite* to remain on a job approximately a month without refueling, though this would vary under varying conditions.

In connection with the change of fuel system, the vessel was given a general overhauling, the boilers, fresh water tanks, pumps, etc., being reconditioned, and repairs being made to the main and towing engines. The tail shaft was lined up and the stern bushing was rewooded. In all, the changes and overhauling cost approximately \$60,000.

The *Favorite* is to make a test trip in the Gulf of Panama, starting on June 29.

### Firearms Permits.

The attention of all holders of, and prospective applicants for, firearms permits for the fiscal year beginning July 1, 1922, is invited to the requirement of submission of application (form 1319-3) in all cases, whether for renewal or new issue. In the case of hunting permits the application must be accompanied by the authorized fee of \$1. When renewing any class of firearms permit, the old expiring license card must accompany the application. Form 1319-3 may be obtained at all Canal Zone police stations.

### Official Circulars.

#### Appointment.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 20, 1922.  
CIRCULAR NO. 661-104.

Effective this date, Mr. Elwyn Greene is appointed Auditor, *vice* Mr. H. A. A. Smith, resigned.

JAY J. MORROW, Governor.

#### Death of Dr. Ciro Luis Urriola, Ex-President of Panama.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., June 27, 1922.  
*To all concerned*—As a mark of respect to the memory of Dr. Ciro Luis Urriola, ex-President of the Republic of Panama, whose death occurred yesterday and whose funeral takes place to-day, it is hereby ordered that the flags on all public buildings within the Canal Zone be half-masted until sunset this day.

JAY J. MORROW, Governor.

#### Street Traffic at Railroad Crossings.

PANAMA RAILROAD COMPANY,  
OFFICE OF MASTER OF TRANSPORTATION,  
BALBOA HEIGHTS, C. Z., June 22, 1922.  
CIRCULAR NO. 177:

*To all concerned*—Effective at once, the present system of controlling street traffic at railroad crossings during the day with red and white flags will be discontinued, and a white paddle lettered STOP on both sides will be used.

When trains are approaching or moving over crossing, flagman will hold the paddle upright with sides lettered STOP facing street traffic,

which will be a signal for street traffic to halt and remain at a standstill during the time stop signal is displayed. When there are no trains approaching or movements being made over crossing, flagman will withdraw paddle, which will indicate that the way is clear for street traffic. At crossings protected by flagmen during night hours a white light will be substituted for the paddle to stop street traffic when trains are approaching or using crossing.

In the future red will be used to serve the intended purpose as prescribed by the rules, carrying its original and only indication—STOP—and will be so respected by all concerned with and in charge of rail movements regardless of where displayed. Crossing flagmen will be furnished a red flag to be used by day and a red light to be used at night for the purpose of signaling engineers of trains or yard crews moving equipment to stop in the event that some vehicle or person is on the thoroughfare between or sufficiently close to the rails to cause damage to vehicles or injury to persons or both, or at any other time when for some reason it may be necessary for trains or yard movements to be brought to a standstill.

When it is necessary for crews to make switching movements over street crossings or any public thoroughfare within yard limits not protected by flagmen or electric warning signal where the view of those using such crossing or thoroughfare is obscured to the extent of making accidents possible, the conductor will have one of the members of his crew protect crossing until switching movements over same have been completed.

All instructions relative to the above issued prior to this date are hereby canceled.

W. J. BISSELL,

Acting Master of Transportation.

Approved:

S. W. HEALD, Superintendent.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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at Cristobal, C. Z., under the Act of March 3, 1879.

Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., July 5, 1922.

No. 47.

## Traffic for Fiscal Year Ending June 30, 1922.

Final summaries of the traffic through the Panama Canal for the fiscal year ending June 30, 1922, have not been completed. Subject to minor corrections, however, the summaries for the past fiscal year as compared with the fiscal years of 1921 and 1920, are as follows:

|                                            | 1922.              | 1921.           | 1920.          |
|--------------------------------------------|--------------------|-----------------|----------------|
| Number of vessels.....                     | 2,736 <sup>a</sup> | 2,892           | 2,478          |
| Net tonnage, Panama Canal measurement..... | 11,417,459         | 11,415,876      | 8,546,044      |
| Tolls (exclusive of launches, etc.).....   | \$11,197,832.41    | \$11,276,889.91 | \$8,513,933.15 |
| Tons of cargo.....                         | 10,873,000         | 11,599,214      | 9,374,499      |

<sup>a</sup> Approximate figure.

On the basis of the figures as above, the number of ships in the fiscal year just ended was 156 less than in the preceding year, a decrease of 5.4 per cent. Net tonnage was slightly greater, and tolls \$79,057.50 less, a decrease of seven-tenths of 1 per cent. The approximate figure for cargo indicates a decrease of about 725,000 tons, or about 6 per cent. The fiscal year 1921 was the year of greatest traffic through the Canal so far.

In the calendar year 1921 the number of commercial ships making the transit was 2,783. Net tonnage and tolls (11,435,811 tons and \$11,261,098 in tolls) were about the same as in the fiscal year just ended; and cargo, 10,707,005 tons, was less than the indicated total for the fiscal year 1922 by about 165,000 tons. The traffic for the fiscal year was, accordingly, at about the same rate as in the last calendar year.

## Canal Traffic in June.

A total of 228 ocean-going commercial vessels transited the Canal during the month of June. Tolls on these vessels aggregated \$933,290.42 as compared with \$1,015,057.37 tolls for 243 vessels last month, and \$751,964.12 tolls for 192 vessels in the month of June, last year.

In addition to the above commercial traffic, 4 small nonseagoing launches transited the Canal during the month, on which tolls of \$10.20 were paid, and 24 U. S. Government vessels were passed through the Canal free of tolls.

Commercial traffic through the Canal in June was somewhat smaller than traffic for the preceding month, but was considerably in excess of commercial traffic through the Canal in June, 1921, and slightly above the average traffic during the fiscal year ending June 30, 1922.

Traffic from the Atlantic to the Pacific was greater than normal and has been exceeded but twice during the past fiscal year; during the past month the Atlantic to Pacific traffic comprised slightly more than 60 per cent of the total traffic through the Canal. Traffic from the Pacific to the Atlantic was unusually light, and with the exception of the month of January, was the smallest volume of traffic from the Pacific to the Atlantic of any month during the past fiscal year.



## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, July 1, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.          | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Salt water draft. | From—         | Port—          | Cargo.           |       | Panama Canal tonnage. |
|----------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------------------|---------------|----------------|------------------|-------|-----------------------|
|                | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |                   |               |                | Nature.          | Tons. |                       |
| Solana         | 24               | 15    | 25             | 6     | 15                 | 55    | 25               | 17    | 28           | Pacific Mail Steamship Co.       | 419     | 56    | 28                | Tampico.      | Iquique.       | Oil              | 9,500 | 5,041                 |
| Tamara         | 24               | 18    | 25             | 6     | 20                 | 15    | 29               | 11    | 29           | U. S. Navy                       | 351     | 15    | 15                | Norfolk       | Los Angeles.   | General          | 4,300 | 4,805                 |
| Atio           | 24               | 19    | 25             | 7     | 30                 | 25    | 15               | 32    | 25           | Roland Line.                     | 361     | 51    | 20                | Aniwerp.      | Guayaquil.     | General          | 4,664 | 4,151                 |
| Mahana         | 25               | 12    | 25             | 13    | 05                 | 19    | 26               | 8     | 19           | Shaw, Saville & Albion Co.       | 500     | 9     | 30                | Glasgow       | Auckland.      | Coal and coke.   | 6,909 | 6,759                 |
| Santa Clara    | 25               | 8     | 26             | 6     | 19                 | 26    | 14               | 03    | 26           | Atlantic & Pacific Steamship Co. | 404     | 63    | 28                | Newcastle.    | Callao         | General and coal | 2,788 | 3,012                 |
| Nauru Chief    | 25               | 11    | 26             | 12    | 08                 | 26    | 18               | 53    | 21           | Alvin & Dickinson                | 289     | 40    | 21                | New York.     | Nauru Island.  | General          | 2,471 | 9,151                 |
| Ebro           | 25               | 18    | 26             | 13    | 02                 | 20    | 35               | 26    | 21           | Pacific Steam Navigation Co.     | 450     | 57    | 26                | Boston.       | Valparaiso.    | General          | 8,000 | 6,520                 |
| Felix Faussig. | 25               | 7     | 26             | 13    | 02                 | 20    | 35               | 22    | 00           | Crowell & Thurlow                | 395     | 55    | 17                | Boston.       | Los Angeles.   | General          | 8,000 | 6,520                 |
| Tacoma         | 25               | 10    | 27             | 6     | 20                 | 27    | 14               | 05    | 27           | U. S. Navy                       | 308     | 44    | 17                | Guantanamo.   | Balboa         | General          | 840   | 9,055                 |
| Rapahu         | 27               | 5     | 27             | 7     | 32                 | 27    | 14               | 45    | 27           | New Zealand Shipping Co.         | 457     | 58    | 21                | London.       | Wellington.    | General          | 4,781 | 4,826                 |
| Dardanus       | 27               | 8     | 27             | 8     | 45                 | 27    | 16               | 02    | 27           | Alfred Holt & Co.                | 392     | 47    | 22                | Liverpool.    | Los Angeles.   | General          | 8,159 | 10,385                |
| Westmoreland.  | 27               | 17    | 27             | 8     | 57                 | 28    | 13               | 37    | 28           | Federal Steam Navigation Co.     | 473     | 60    | 28                | London.       | New Zealand.   | General          | 4,557 | 8,514                 |
| Eendijk.       | 26               | 20    | 28             | 7     | 50                 | 28    | 14               | 33    | 28           | Holland-American Line.           | 469     | 58    | 3                 | Rotterdam.    | Portland.      | General          | 4     | 132                   |
| Laura C. Hall. | 26               | 18    | 30             | 7     | 12                 | 28    | 15               | 58    | 29           | Pacific Metals Corp.             | 81      | 25    | 6                 | Cristobal.    | Buenaventura.  | General          | 15    | 531                   |
| Marore         | 28               | 7     | 45             | 8     | 15                 | 28    | 16               | 53    | 28           | Ore Steamship Co.                | 550     | 72    | 21                | Baltimore.    | Cruz Grande.   | Ballast          | 6,500 | 10,491                |
| Virginian      | 28               | 7     | 55             | 28    | 9                  | 20    | 28               | 16    | 53           | American-Hawaiian Line           | 497     | 58    | 25                | Boston.       | Buenaventura.  | General          | 6,108 | 4,945                 |
| Craster Hall   | 27               | 14    | 20             | 10    | 35                 | 28    | 18               | 45    | 28           | U. S. Steel Products Co.         | 380     | 50    | 25                | New York.     | Valparaiso.    | General          | 439   | 5,917                 |
| Saint Andre.   | 27               | 16    | 35             | 28    | 11                 | 40    | 28               | 18    | 45           | French Line                      | 380     | 50    | 25                | Bordeaux.     | Valparaiso.    | General          | 6,912 | 8,586                 |
| Mantaro        | 23               | 15    | 16             | 28    | 12                 | 55    | 28               | 18    | 45           | Peruvian Line                    | 433     | 57    | 25                | Cristobal.    | Brisbane.      | General          | 2,226 | 6,201                 |
| Karonga        | 28               | 5     | 25             | 29    | 6                  | 29    | 13               | 51    | 29           | Ellerman & Bucknell              | 254     | 35    | 15                | Portsmouth.   | Salina Cruz.   | Ballast          | 8,687 | 7,611                 |
| Sinaloa        | 28               | 4     | 27             | 7     | 30                 | 29    | 14               | 34    | 29           | Clan Line, Ltd.                  | 434     | 52    | 19                | New York.     | Seattle.       | General, steel   | 8,500 | 7,330                 |
| Brush          | 29               | 7     | 29             | 8     | 24                 | 29    | 16               | 03    | 29           | North Atlantic & Western Co.     | 390     | 54    | 27                | New York.     | Los Angeles.   | General          | 7,883 | 6,868                 |
| Steel Ranger   | 29               | 1     | 10             | 29    | 12                 | 00    | 29               | 18    | 42           | U. S. Steel Products Co.         | 424     | 56    | 27                | New Orleans.  | San Francisco. | Ballast          | 5,015 | 11,487                |
| Orleans        | 29               | 12    | 38             | 29    | 12                 | 50    | 29               | 19    | 35           | Oriental Navigation Co.          | 395     | 55    | 27                | London.       | Seattle.       | General          | 9,380 | 6,376                 |
| Gymric         | 29               | 7     | 05             | 30    | 11                 | 05    | 30               | 15    | 25           | Andrew Weir & Co.                | 420     | 54    | 18                | London.       | San Francisco. | General          | 2,442 | 7,112                 |
| Navahoe        | 29               | 7     | 30             | 6     | 40                 | 30    | 16               | 22    | 30           | Anglo-American Oil Co.           | 450     | 58    | 0                 | Rotterdam.    | Los Angeles.   | General          | 5,641 | 5,919                 |
| Lewis Lucken-  | 29               | 14    | 30             | 7     | 55                 | 30    | 15               | 05    | 30           | Luckenbach Line                  | 496     | 68    | 2                 | Philadelphia. | Wellington.    | Ballast          | 3,339 | 6,652                 |
| barb           | 29               | 7     | 30             | 8     | 35                 | 30    | 16               | 32    | 30           | Ando-American Oil Co.            | 476     | 60    | 21                | Southampton.  | Panama.        | General          | 8,656 | 7,611                 |
| Iroquois       | 29               | 3     | 30             | 9     | 32                 | 30    | 16               | 32    | 30           | American-Hawaiian Line           | 476     | 60    | 18                | New York.     | Seattle.       | General          | 1,305 | 1,589                 |
| Obioan         | 30               | 5     | 41             | 10    | 30                 | 17    | 20               | 18    | 30           | Orient Steamship Co.             | 375     | 53    | 20                | New York.     | Champerico.    | General          | 1     | 1                     |
| Orient         | 30               | 6     | 05             | 30    | 10                 | 30    | 18               | 24    | 30           | Kobe Line                        | 375     | 53    | 20                | New York.     | Champerico.    | General          | 1     | 1                     |
| Ryufuku Maru   | 29               | 18    | 42             | 30    | 11                 | 25    | 30               | 19    | 45           | Kobe Line                        | 385     | 52    | 24                | New York.     | Champerico.    | General          | 1     | 1                     |
| Cacine         | 29               | 16    | 10             | 30    | 12                 | 40    | 30               | 19    | 09           | Kobe Line                        | 394     | 52    | 24                | New York.     | Champerico.    | General          | 1     | 1                     |
| Wangatta       | 30               | 13    | 57             | 1     | 6                  | 55    | 1                | 15    | 38           | British India Steam Nav. Co.     | 450     | 58    | 25                | London.       | Champerico.    | General          | 1     | 1                     |
| Almirante      | 30               | 16    | 03             | 1     | 6                  | 50    | 1                | 15    | 34           | M. Valencia                      | 71      | 18    | 0                 | Cristobal.    | Champerico.    | General          | 1     | 1                     |
| Knoxville City | 30               | 14    | 42             | 1     | 7                  | 17    | 1                | 15    | 28           | U. S. Steel Products Co.         | 424     | 56    | 27                | Baltimore.    | Champerico.    | General          | 1     | 1                     |
| Cura           | 27               | 14    | 55             | 1     | 11                 | 00    | 1                | 17    | 31           | Pacific Steam Navigation Co.     | 246     | 35    | 9                 | Cristobal.    | Champerico.    | General          | 1     | 1                     |

\* Coast Guard cutter.

\* Cruiser.

\* Motor schooner.

\* Barge.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Steel Worker    | 24 | 15 | 10 | 25 | 7  | 17 | 25 | 14 | 40 | 25 | 21 | 25 | U. S. Steel Products Co. | 424 | 2 | 56 | 2 | 25 | 6  | Everett       | Roscon        | General  | 8,200  | 7,611 | 5,497 |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|--------------------------|-----|---|----|---|----|----|---------------|---------------|----------|--------|-------|-------|
| Wheaton         | 25 | 12 | 30 | 25 | 7  | 52 | 25 | 14 | 42 | 25 | 15 | 08 | American                 | 415 | 0 | 53 | 7 | 29 | 0  | New York      | New York      | Ballast  | 755    | 2,947 | 2,113 |
| Advance         | 25 | 1  | 40 | 25 | 8  | 32 | 25 | 15 | 56 | 28 | 15 | 00 | American                 | 295 | 0 | 38 | 5 | 20 | 3  | Cristobal     | Cristobal     | General  | 3,877  | 7,009 | 6,117 |
| Essequibo       | 25 | 3  | 00 | 25 | 9  | 15 | 25 | 16 | 48 | 26 | 12 | 43 | British                  | 450 | 0 | 52 | 0 | 25 | 0  | New York      | New York      | General  | 5,900  | 5,403 | 3,967 |
| Cherry Branch   | 25 | 3  | 00 | 25 | 10 | 12 | 25 | 17 | 20 | 25 | 19 | 32 | British                  | 400 | 0 | 58 | 0 | 24 | 0  | Liverpool     | Liverpool     | General  | 5,000  | 4,940 | 3,316 |
| Freight Sulphur | 25 | 4  | 00 | 25 | 10 | 35 | 25 | 18 | 00 | 26 | 1  | 15 | American                 | 355 | 5 | 52 | 5 | 21 | 8  | Tacoma        | Philadelphia  | Lumber   | 3,300  | 5,776 | 4,081 |
| Ship No. 5      | 24 | 21 | 00 | 25 | 12 | 30 | 25 | 19 | 05 | 26 | 19 | 19 | American                 | 380 | 2 | 51 | 6 | 22 | 8  | San Francisco | San Francisco | General  | 10,000 | 7,481 | 4,975 |
| S. C. T. Dodd   | 25 | 12 | 20 | 25 | 12 | 50 | 25 | 20 | 03 | 25 | 20 | 03 | American                 | 425 | 8 | 57 | 2 | 28 | 2  | Corral        | Philadelphia  | Bulk oil | 4,170  | 7,525 | 5,154 |
| Rhodops         | 24 | 11 | 00 | 26 | 6  | 54 | 26 | 16 | 11 | 26 | 23 | 13 | German                   | 435 | 0 | 53 | 0 | 22 | 0  | Hamburg       | Hamburg       | General  | 61     | 132   | 72    |
| Almraut         | 24 | 11 | 00 | 26 | 7  | 36 | 26 | 16 | 03 | 1  | 6  | 30 | Panaman                  | 71  | 0 | 18 | 5 | 4  | 0  | Panama        | San Blas      | Coffee   | 7,500  | 7,098 | 5,029 |
| Aura C. Hall    | 25 | 17 | 00 | 26 | 11 | 02 | 26 | 18 | 30 | 28 | 7  | 12 | British                  | 81  | 0 | 53 | 7 | 28 | 4  | Buenaventura  | Cristobal     | General  | 1,200  | 7,406 | 5,311 |
| Lampoc          | 26 | 10 | 20 | 26 | 11 | 02 | 26 | 18 | 15 | 27 | 2  | 00 | American                 | 407 | 7 | 59 | 9 | 27 | 6  | Tacoma        | Hamburg       | General  | 8,000  | 7,008 | 5,479 |
| London          | 24 | 2  | 45 | 27 | 7  | 11 | 27 | 13 | 30 | 27 | 14 | 20 | British                  | 435 | 3 | 55 | 9 | 27 | 6  | Balboa        | Tampoco       | Ballast  | 1,200  | 1,509 | 1,018 |
| Caico           | 27 | 8  | 20 | 27 | 8  | 15 | 27 | 14 | 55 | 1  | 11 | 00 | British                  | 284 | 0 | 35 | 3 | 17 | 6  | Champerico    | Cristobal     | General  | 5,985  | 9,258 | 6,912 |
| Lisaon Maru     | 27 | 8  | 20 | 27 | 10 | 40 | 27 | 17 | 59 | 27 | 20 | 30 | Japanese                 | 445 | 0 | 58 | 0 | 24 | 0  | Yokohama      | New York      | General  | 6,200  | 5,274 | 3,886 |
| Cleveland       | 15 | 2  | 00 | 28 | 6  | 51 | 28 | 14 | 40 | 29 | 8  | 05 | American                 | 309 | 0 | 44 | 0 | 24 | 0  | Balboa        | Cristobal     | General  | 5,985  | 9,258 | 6,912 |
| Mexican         | 28 | 2  | 00 | 28 | 8  | 02 | 28 | 15 | 55 | 28 | 20 | 45 | American                 | 472 | 3 | 57 | 2 | 24 | 0  | Los Angeles   | New York      | General  | 6,395  | 5,997 | 3,475 |
| Bertrines       | 28 | 5  | 00 | 28 | 9  | 08 | 28 | 17 | 10 | 28 | 18 | 15 | British                  | 405 | 0 | 51 | 5 | 24 | 0  | Portland      | Queenstown    | Wheat    | 250    | 4,852 | 3,182 |
| Huasco          | 27 | 21 | 00 | 28 | 14 | 10 | 28 | 14 | 10 | 28 | 7  | 25 | Chile                    | 380 | 0 | 44 | 0 | 21 | 0  | Talcahuano    | Cristobal     | General  | 682    | 1,213 | 8,623 |
| Salvador        | 28 | 20 | 20 | 29 | 7  | 22 | 29 | 17 | 40 | 29 | 20 | 40 | Japanese                 | 215 | 0 | 33 | 5 | 14 | 6  | Guayaquil     | Cristobal     | General  | 3,744  | 7,801 | 5,023 |
| Amur Maru       | 29 | 8  | 45 | 30 | 10 | 32 | 30 | 17 | 40 | 2  | 15 | 00 | French                   | 425 | 0 | 56 | 0 | 21 | 0  | Singapore     | New York      | General  | 6,400  | 6,020 | 4,863 |
| Honduras        | 30 | 8  | 30 | 30 | 9  | 57 | 30 | 17 | 40 | 2  | 15 | 00 | French                   | 404 | 9 | 51 | 7 | 25 | 0  | Vancouver     | Dunkirk       | General  | 530    | 1,272 | 7,006 |
| Acapulca        | 30 | 9  | 40 | 30 | 10 | 58 | 30 | 17 | 43 | 2  | 12 | 30 | British                  | 215 | 7 | 33 | 5 | 14 | 6  | Champerico    | New York      | General  | 346    | 3,429 | 2,206 |
| Cuba            | 30 | 8  | 00 | 30 | 11 | 03 | 30 | 17 | 46 | 2  | 12 | 30 | American                 | 307 | 7 | 46 | 2 | 17 | 3  | San Francisco | Cristobal     | General  | 6,200  | 5,274 | 3,886 |
| Stoddard        | 1  | 8  | 30 | 1  | 7  | 07 | 1  | 15 | 28 | 1  | 16 | 43 | Norwegian                | 149 | 3 | 30 | 0 | 25 | 0  | Balboa        | Cristobal     | General  | 4,001  | 7,217 | 5,295 |
| Borgland        | 1  | 9  | 10 | 1  | 9  | 10 | 1  | 16 | 59 | 1  | 16 | 59 | American                 | 425 | 0 | 53 | 2 | 22 | 11 | Seattle       | New York      | General  | 8,636  | 6,437 | 4,442 |
| Lena Luckenbach | 1  | 9  | 10 | 1  | 11 | 40 | 1  | 18 | 40 | 1  | 18 | 40 | American                 | 411 | 5 | 55 | 0 | 27 | 6  | Arica         | New York      | General  |        |       |       |
| Caddo           | 1  | 7  | 15 | 1  | 11 | 40 | 1  | 18 | 40 | 1  | 18 | 40 | American                 | 411 | 5 | 55 | 0 | 27 | 6  | Arica         | New York      | General  |        |       |       |

U. S. Navy tug.

Coffee, skins, wood, and pearl shell.

Coffee, sugar, hides, and general.

Gasoline and naphtha.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

| ARRIVALS. |           |                  |                         | DEPARTURES. |            |                  |                           |
|-----------|-----------|------------------|-------------------------|-------------|------------|------------------|---------------------------|
| Date.     | Vessel.   | Line.            | From—                   | Date.       | Vessel.    | Line.            | For—                      |
| June 25   | Abangarez | United Fruit Co. | New Orleans via Habana. | June 26     | Abangarez  | United Fruit Co. | Bocas del Toro.           |
| June 26   | Parinama  | United Fruit Co. | New Orleans.            | June 26     | St. Michel | U. S. Army       | New York via San Juan.    |
| June 27   | Calamarez | United Fruit Co. | New York via Habana.    | June 28     | Calamarez  | United Fruit Co. | Port Limon.               |
| June 28   | Tivives   | United Fruit Co. | Colombian ports.        | June 29     | Parinama   | United Fruit Co. | New Orleans via wayports. |

U. S. Army transport.

(Continued on page 594, column 2.)

### The "Lompoc" Makes Three Transits In One Month.

The tanker *Lompoc*, operated by the Union Oil Company of California, made 3 passages through the Canal during June. On June 10 she made the transit northbound, on the way from Tocopilla, Chile, to Tampico, Mexico, in ballast, after having undergone repairs at Balboa shops; on June 24, returning from Tampico, the *Lompoc* passed through the Canal to deliver a cargo of oil at Balboa; and on the 27th she made the transit in ballast, bound for Tampico again. In all, the *Lompoc* paid \$13,464.09 in tolls in June; \$3,823.92 for each transit in ballast and \$5,806.25 for passage with cargo.

### Coming of Japanese Training Squadron.

The training squadron of the naval school of the Imperial Japanese Navy, consisting of the cruisers *Iwate*, *Asama*, and *Isumo* is due to arrive at the Pacific entrance of the Canal on August 5, transit the Canal on August 7, and remain at the Atlantic entrance until August 11.

### Decreased Depth at Rosalind Bank Reported.

Attention of masters plying between the Canal and Gulf ports or Habana is invited to the following Notice to Mariners published by the Hydrographic Office of the Navy under date of June 17:

(2174) *Caribbean Sea—Rosalind Bank—Decreased depth reported.*—The master of the British steamer *Spectator* reports that on May 23, 1922, at 10.15 a. m. he got a cast of the lead showing 6 fathoms, fine sand, in (approximately) 16° 28' N., 80° 41' W.

### Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., July 3, 1922.

The master of the steamship *Fairbanks* passed 2 large floating spars in Lat. 7° 51' N., Long. 79° 45' W., at 5 p. m., July 2; this is in Panama Bay. Dangerous to navigation.

JAY J. MORROW,  
Governor.

### Staff Surveyor for Lloyd's to be Stationed at Canal.

Lloyd's have advised that it has been decided to station a staff surveyor at the Panama Canal, and that accordingly Mr. George Allan, at present one of the surveyors at New York, will take up his duties at Balboa on August 1. The appointments of those who have been serving on the Isthmus as acting surveyors will be terminated.

In transmitting this information, the Secretary of Lloyd's Register in New York has stated:

It is felt that the appointment will be in the interest of owners of vessels classed in the Society's Register Book and visiting the Panama Canal Zone, and will also be appreciated by other parties who may desire to avail themselves of the services for such surveys as he is empowered by the Society's Rules to carry out.

### Fresh Fruit Shipped from Peru to New York.

The shipment of fresh fruit during the winter and early spring from Chile to the United States, which was started in 1921 and continued on a somewhat larger scale in 1922, has been noted in previous issues.

In March of this year an experimental shipment of 100 cases of grapes and 50 cases of mangoes was made from Peru to New York via the Grace Line steamer *Santa Elisa*. An American commission

merchant was instrumental in promoting this shipment, and an expert picker and packer from the Imperial Valley in California superintended the work in Peru. The fruit arrived in New York in good condition, in spite of the fact that the mangoes for lack of space were carried on deck, and when put up at auction brought good prices.

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended July 1:

Steamships *Suruga*, dismantle direct-connected main air, circulating, bilge and feed pump; bore out main bearings for rocker arm; renew main rocker shaft broken at sea; fair up rocker arm and drag links; true up all plungers and pump rods; and bush glands; *Trontolite*, make general repairs to ice machine; renew 2 pipe coils in meat box; renew 12 tubes and overhaul valves of feed water heater; and overhaul 1 oil valve; *Nordfær*, dry-dock ship for repairs to damage due to collision with barge No. 137; remove, straighten, and replace bent stem and shell plates at forepeak; remove propeller; draw tail shaft inboard for examination of stern tube; reinstall and fit spare propeller from deck of ship; renew bronze stern gland; weld lug on yoke of hand steering gear; renew 4 pintles and weld crack in rudder; clean, wire-brush, and paint ship's bottom, using paint furnished by ship.

The following vessels were at the Cristobal shops for repairs during the week ended July 3:

Steamships *Cauca*, repair division plate in condenser and renew water service valve on same; skim up piston rod; make and fit new neck bush and gland for circulating pump; repair refrigerator; repair boiler safety valves and gauges; straighten 3 furnace fronts; repair and renew part of wooden bulkhead in main bunker; repair steering chains and cargo blocks and swivel hooks; repair water taps in staterooms, etc.; *Solana*, weld dynamo eccentric strap and manufacture new one for spare; manufacture one 6-inch iron pipe with flanges for bunkering, etc.; *Salvador*, repair compressor, ballast pump suction chest lead pipe, and bunk in sailors' forecastle; renew covering boards on bridge deck and calk seams, etc.; *Empress of Australia*, machine 2 thrust shafts; machine and remetal thrust collars; clean and scale tanks as directed, etc.; *Acajulla*, repair refrigerator, compressor, and fuel heater coils; manufacture 3 hatch tarpaulins; repair 8 lifeboats and locking bar of No. 3 hatch; alter reversing lever of No. 2 starboard winch; rebush and repair gin and purchase blocks; overhaul scales, etc.; *Honduras*, manufacture 6 hatch strongbacks as directed; barge *Narahoe*, steamships *Westmoreland*, *Cristobal*, *Lewis Luckenbach*, minor repairs.

### Two Employees Killed by Explosion of Oxygen Tank.

Leopold A. Johnson, American, and C. Goodman, Barbadian, were killed instantly by the explosion of a tank of oxygen which they were using in connection with a cutting torch in building No. 4, the boiler shop, of Balboa shops at approximately 8.50 a. m., June 30. Three other employees were injured (two have since returned to duty and the third is about on crutches).

All similar tanks were immediately withdrawn from service and an investigation was started to ascertain the cause of the explosion. Final report has not been made, but it is believed that the explosion resulted from back-firing due to the presence of impurities in the gas.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending July 1, 1922.

| Name of vessel.    | Line or charterer.                   | Arrived.     | Departed.    | Cargo—     |        |
|--------------------|--------------------------------------|--------------|--------------|------------|--------|
|                    |                                      |              |              | Discharged | Laded. |
|                    |                                      |              |              | Tons.      | Tons.  |
| Laura C. Hall..... | Pacific Metals Transp. Co., Ltd. . . | June 25..... | June 26..... | 4          | .....  |
| Cauca.....         | Pacific Steam Navigation Co.....     | June 27..... | June 27..... | 2          | .....  |
| Huaseo.....        | Chilean Line.....                    | June 28..... | June 28..... | 80         | .....  |
| Laura C. Hall..... | Pacific Metals Transp. Co., Ltd. . . | June 28..... | June 28..... | .....      | 67     |
| Salvador.....      | Pacific Steam Navigation Co.....     | June 28..... | June 29..... | 5          | .....  |
| Derblay.....       | U. S. Shipping Board.....            | June 30..... | June 30..... | 185        | .....  |
| Cuba.....          | Pacific Mail Steamship Co.....       | June 30..... | June 30..... | 22         | .....  |
| Cauca.....         | Pacific Steam Navigation Co.....     | July 1.....  | July 1.....  | .....      | 1      |



# Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending July 1, 1922.

| Name of vessel.    | Line or charterer.              | Arrived. | Departed. | Cargo—           |                  |
|--------------------|---------------------------------|----------|-----------|------------------|------------------|
|                    |                                 |          |           | Discharged       | Laded.           |
|                    |                                 |          |           | <i>Tons.</i>     | <i>Tons.</i>     |
| Dinteldyk.         | Holland-American Line.          | June 18. | June 18.  | ( <sup>1</sup> ) | 32               |
| Colombia.          | Pacific Mail Steamship Co.      |          | June 18.  |                  | 545½             |
| San Bruno.         | United Fruit Co.                | June 18. | June 18.  | 20               | 129              |
| Atenas.            | United Fruit Co.                | June 18. | June 19.  | ( <sup>1</sup> ) | 116              |
| Colon.             | Panama Railroad Steamship Line. |          | June 19.  |                  | 3,119            |
| Renaico.           | Chilean Line.                   | June 19. | June 19.  | 2                | ( <sup>2</sup> ) |
| Manavi.            | Pacific Steam Navigation Co.    |          | June 22.  |                  | 351              |
| Perou.             | French Line.                    | June 19. | June 23.  | 46               | 413              |
| Heredia.           | United Fruit Co.                | June 20. | June 22.  | 606              | 280              |
| Crynsen.           | Royal Netherlands W. I. Mail.   | June 20. | June 21.  | 40               | ( <sup>2</sup> ) |
| Tolca.             | United Fruit Co.                | June 20. | June 21.  | 544              | 25               |
| Asian.             | Leyland Line.                   | June 20. |           | 561              |                  |
| San Gil.           | United Fruit Co.                | June 21. | June 21.  | 17               | 51               |
| Sarpfos.           | Caribbean Steamship Line.       | June 22. |           | 340              |                  |
| Adalia.            | Hamburg-American Line.          | June 21. | June 22.  | ( <sup>1</sup> ) | 75               |
| Atenas.            | United Fruit Co.                | June 22. | June 22.  | 3                | 65               |
| Crynsen.           | Royal Netherlands W. I. Mail.   | June 23. | June 24.  | 14               | 2,505            |
| Mantaro.           | Peruvian Line.                  | June 23. |           | 1,845            |                  |
| Gen. W. C. Gorgas. | Panama Railroad Steamship Line. | June 24. |           | 1,553            |                  |
| Bayano.            | Elders & Fyffes, Ltd.           | June 24. | June 24.  | 30               | ½                |
| Essequibo.         | Pacific Steam Navigation Co.    | June 25. | June 26.  | 2                | 32               |
| Ebro.              | Pacific Steam Navigation Co.    | June 25. | June 26.  | 238              | ( <sup>2</sup> ) |
| Santa Ana.         | Pacific Mail Steamship Co.      | June 25. | June 26.  | 313              | 204              |
| Abangarez.         | United Fruit Co.                | June 25. | June 26.  | ( <sup>1</sup> ) | 143              |
| Rhodophis.         | Kosmos Line.                    | June 26. | June 26.  | ( <sup>1</sup> ) | 82               |
| Advance.           | Panama Railroad Steamship Line. | June 25. | June 28.  | 417              | ( <sup>2</sup> ) |
| Eemdjik.           | Holland-American Line.          | June 26. | June 28.  | 70               | 408              |
| Laura C. Hall.     | Pacific Metals Corp.            | June 26. | June 28.  | 61               | 5                |
| Parismina.         | United Fruit Co.                | June 26. | June 29.  | 619              | 92               |
| Cauca.             | Pacific Steam Navigation Co.    | June 27. | July 1.   | 1,200            | 1,368            |
| Saint Andre.       | French Line.                    | June 27. | June 28.  | 47               | ( <sup>1</sup> ) |
| Calamares.         | United Fruit Co.                | June 27. | June 28.  | 216              | 44               |
| Mantaro.           | Peruvian Line.                  |          | June 28.  |                  | 292              |
| Tivives.           | United Fruit Co.                | June 28. | June 29.  | 43½              | 5                |
| Metapan.           | United Fruit Co.                | June 28. | June 29.  | 66               | 157              |
| Huasco.            | Chilean Line.                   | June 28. |           | 265              |                  |
| Caledonia.         | N. O. & S. A. S. S. Line.       | June 28. | June 29.  | 367½             | ( <sup>2</sup> ) |
| Salvador.          | Pacific Steam Navigation Co.    | June 29. |           | 682              |                  |
| Abangarez.         | United Fruit Co.                | June 29. | June 29.  | 10               | 49               |
| Nitonian.          | Leyland Line.                   | June 29. |           | 475              |                  |
| Acajutla.          | Pacific Steam Navigation Co.    | June 30. |           | 530              |                  |
| Honduras.          | French Line.                    | June 30. |           | 1                |                  |
| Cristobal.         | Panama Railroad Steamship Line. | June 30. |           | 9,594            |                  |
| Cuba.              | Pacific Mail Steamship Co.      | June 30. |           | 346½             |                  |
| Asian.             | Leyland Line.                   |          | June 30.  |                  | 496              |
| Gen. W. C. Gorgas. | Panama Railroad Steamship Line. |          | July 1.   |                  | 2,165            |

\* No cargo discharged.

\* No cargo laded.

## Notaries Public in the Canal Zone.

The following is a list of the notaries public commissioned in the Canal Zone as of June 14, 1922. The list gives the name, where stationed, and the date of expiration of commission:

### BALBOA.

Adams, R. H., Balboa shops, August 18, 1922.  
 Dryden, Geo. A., Balboa storehouse, October 8, 1923.  
 Hyde, W. H., Port Captain's office, March 31, 1923.  
 Kalar, J. D., Port Captain's office, April 15, 1923.

### BALBOA HEIGHTS.

Attaway, E. F., Administration Building, room 272, October 28, 1924.  
 Buehler, Geo. H., Administration Building, room 201, April 19, 1924.  
 Hammer, H. H., Administration Building, room 262, March 31, 1923.  
 Ilgen, W. F., station agent, December 3, 1922.  
 Illwitzer, P. G., Purchase and Sales Bureau, Administration Building, room 268, October 11, 1923.

Murray, P. E., Administration Building, room 112, June 25, 1923.  
 Pender, W. L., Administration Building, room 237, July 30, 1922.  
 Singleton, C. C., district quartermaster's, April 26, 1922.  
 Sims, Walter H., Quarry Heights, December 1, 1924.  
 Taylor, R. G., Administration Building, room 343, April 19, 1924.  
 Wang, Frank H., Administration Building, room 303, April 30, 1923.  
 Walker, J. J., Administration Building, room 237, July 27, 1924.  
 Williams, H. E., Administration Building, room 208, January 10, 1924.

### ANCON.

Boyd, Oscar S., Municipal Division, July 30, 1922.



Erwin, Wm. G., Land Agent's office, December 30, 1924.  
 Lfever, John E., Land Agent's office, February 28, 1925.  
 LeMire, George, post office, April 30, 1923.  
 Sheibley, F. H., District Court, November 1, 1923.

## COROZAL.

Gill, Joseph H., Armament office, December 10, 1922.  
 Malone, P. L., station agent, April 12, 1924.

## PARAISO.

Rattiner, W. H., Dredging Division, February 18, 1924.

## PEDRO MIGUEL.

R. N. Norris, Municipal Division, June 30, 1924.  
 Oliver, Rev. E. M., minister, April 30, 1923.

## SUMMIT.

Wood, A. C., station agent, December 3, 1922.

## GAMBOA.

Freehan, P. A., station agent, December 3, 1922.

## GATUN.

Daniels, W. L., locks, March 25, 1924.  
 DeLange, W., Electrical Division, December 12, 1922.  
 Ford, Stanley R., district quartermaster, August 19, 1923.

Hanrahan, T. J., railroad station, December 3, 1922.  
 Scarborough, W. W., clubhouse, August 19, 1923.

## CRISTOBAL.

Campbell, J. S., Assistant District Court Clerk, January 29, 1923.  
 Coffey, D. A., Receiving and Forwarding Agency, December 17, 1922.  
 Collins, E. G., railroad station (Colon), December 3, 1922.  
 Earle, L. H., American Foreign Banking Corporation, January 9, 1924.  
 Flood, Arthur, Customs office, November 15, 1922.  
 Halpin, Max H., Port Captain's office, July 12, 1924.  
 Hughes, P. L., coaling plant, February 14, 1925.  
 Livengood, J. F., Commissary Division, May 17, 1925.  
 MacSparren, E. S., Receiving and Forwarding Agency, December 1, 1924.  
 Mitchell, J. A., Customs office, March 31, 1925.  
 Page, Courtney K., American Foreign Banking Corporation, August 24, 1924.  
 Rabbitt, D. F., Commissary Division, October 11, 1923.  
 Stone, W. H., Mechanical Division, September 4, 1922.  
 Thornton, H. O., Receiving and Forwarding Agency, December 3, 1922.  
 Weaver, H. D., Port Captain's office, May 11, 1922.

### Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

### Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference.

It is not desired that inquiries of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.

### Official Circular.

#### Services Out of Norfolk.

PANAMA RAILROAD COMPANY,  
 PANAMA RAILROAD STEAMSHIP LINE,  
 BALBOA HEIGHTS, C. Z., June 27, 1922.

To all concerned—Supplementing circular from this office, dated May 20, announcing passenger service by the steamship *Cristobal* between Cristobal and Norfolk, we wish to inform the public that in addition to the railroad service and steamship service mentioned in our former circular, the Old Dominion Line has a service between Norfolk and New York.

S. W. HEALD.

Superintendent.

### Shipping Commissioner's Sale.

The Shipping Commissioner, room 305, Administration Building, Balboa Heights, will accept written bids up to noon Monday, July 10, 1922, for the purchase of certain personal property belonging to the estate of Archie M. Keegan, deceased American seaman, and consisting of a suitcase, wearing apparel, and miscellaneous personal effects.

Persons desiring to examine the property may apply to the Commissioner's Office, on any business day, where they may obtain detailed lists of the effects on which to prepare bids. Copies of such lists will also be found posted at each of the clubhouses and post offices in the Canal Zone and in the offices of the Deputy Shipping Commissioners at Balboa and Cristobal.

Bids may be made for the entire lot of effects or for individual articles, and should be submitted

in sealed envelopes addressed to the Shipping Commissioner, and marked "Bid on Effects of Archie M. Keegan, deceased." No advance deposit of money is required with bids, and the right is reserved to reject any or all bids.

### Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa. For delivering lump coal for galley use, in sacks, \$12 additional per ton; but if vessel furnishes sacks, \$5 per ton additional.

For coal in *large quantities* as specified below, taken from alongside coaling plants:

(a) To vessels taking 1,200 tons or over;  
(b) To vessels taking between 825 and 1,200 tons and bunkering full;  
(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

### MOVEMENTS OF OCEAN VESSELS.—Continued from page 589.

PORT OF CRISTOBAL—continued.

| *ARRIVALS.      |                      |                                 | *DEPARTURES. |             |                        |
|-----------------|----------------------|---------------------------------|--------------|-------------|------------------------|
| Date.           | Vessel.              | Line.                           | Date.        | Vessel.     | Line.                  |
| June 28         | Metapan              | United Fruit Co.                | June 29      | Tivives     | United Fruit Co.       |
| June 29         | All-America          | All-America Cable Co.           | June 29      | Metapan     | United Fruit Co.       |
| June 29         | Calcutta             | Svenska Lloyd                   | June 29      | Abanarez    | United Fruit Co.       |
| June 29         | Abanarez             | United Fruit Co.                | June 29      | All-America | All-America Cable Co.  |
| June 29         | Nicolini             | Leyland Line                    | June 29      | Caledonia   | Svenska Lloyd          |
| June 30         | Cristobal            | Panama Railroad Steamship Line. | June 30      | San Juan    | Bluefield              |
|                 |                      |                                 | June 30      | Asian       | Leyland Line           |
|                 |                      |                                 |              |             | New York via Kingston. |
|                 |                      |                                 |              |             | New York via wayports. |
|                 |                      |                                 |              |             | New Orleans.           |
|                 |                      |                                 |              |             | High seas.             |
|                 |                      |                                 |              |             | Cienfuegos.            |
|                 |                      |                                 |              |             | Bluefields.            |
|                 |                      |                                 |              |             | New Orleans.           |
| PORT OF BALBOA. |                      |                                 |              |             |                        |
| 11 Cable ship.  |                      |                                 |              |             |                        |
| June 25         | Guarda Costas No. 3. | Colombian Government.           | June 27      | Adour       | K. Salvason            |
| June 27         | Adour                | Buenaventura.                   | June 27      | Rosana      | Albion                 |
| June 29         | Romulus              | San Francisco.                  | July 1       | Romulus     | Albion                 |
| June 30         | Derblay              | Talara.                         | July 1       | Derblay     | U. S. Shipping Board   |
| June 30         | Hwah Ping            | Valparaiso.                     |              |             |                        |
|                 |                      | Iquique.                        |              |             |                        |
|                 |                      | Chinese Government.             |              |             |                        |
| 12 Tug.         |                      |                                 |              |             |                        |
|                 |                      |                                 |              |             | Talara.                |
|                 |                      |                                 |              |             | Punta Arenas.          |
|                 |                      |                                 |              |             | Tacoma.                |
|                 |                      |                                 |              |             | San Francisco.         |

\*Other than ships passing through the Canal.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal, Washington, D. C.

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Certificate.—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical  
information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., July 12, 1922.

No. 48.

## Commercial Traffic Through the Panama Canal in June, 1922, by Trade Routes.

### ATLANTIC TO PACIFIC.

| Route and registry.                                                             | No. of<br>vessels. | TONNAGE.                        |                         |                      |                    | Tolls.       | Tons<br>of cargo. |
|---------------------------------------------------------------------------------|--------------------|---------------------------------|-------------------------|----------------------|--------------------|--------------|-------------------|
|                                                                                 |                    | United<br>States<br>equivalent. | Panama<br>Canal<br>net. | Registered<br>gross. | Registered<br>net. |              |                   |
| <i>United States coastwise:</i>                                                 |                    |                                 |                         |                      |                    |              | <i>Long tons.</i> |
| United States.....                                                              | 34                 | 125,396                         | 161,981                 | 197,879              | 126,012            | \$156,172.74 | 181,651           |
| <i>From east coast of United States to<br/>Far East:</i>                        |                    |                                 |                         |                      |                    |              |                   |
| British.....                                                                    | 6                  | 27,295                          | 32,820                  | 41,184               | 26,560             | 33,782.70    | 42,631            |
| Norwegian.....                                                                  | 5                  | 17,676                          | 24,160                  | 28,639               | 17,727             | 22,095.00    | 38,456            |
| Japanese.....                                                                   | 4                  | 17,376                          | 18,663                  | 24,344               | 17,104             | 21,353.10    | 27,675            |
| United States.....                                                              | 3                  | 12,422                          | 16,013                  | 19,597               | 12,339             | 15,527.50    | 25,047            |
| Italian.....                                                                    | 1                  | 4,025                           | 4,049                   | 5,400                | 3,319              | 4,858.80     | 7,154             |
| Totals.....                                                                     | 19                 | 78,794                          | 95,705                  | 119,164              | 77,049             | 97,617.10    | 140,963           |
| <i>From east coast of United States to<br/>west coast of South<br/>America:</i> |                    |                                 |                         |                      |                    |              |                   |
| United States.....                                                              | 9                  | 37,076                          | 42,336                  | 56,321               | 36,368             | 37,390.44    | 22,833            |
| British.....                                                                    | 2                  | 6,218                           | 7,941                   | 10,944               | 6,612              | 7,772.50     | 3,057             |
| Danish.....                                                                     | 2                  | 4,813                           | 5,591                   | 6,498                | 4,040              | 5,950.75     | 8,078             |
| Swedish.....                                                                    | 1                  | 1,349                           | 1,458                   | 2,316                | 1,630              | 1,686.25     | 2,168             |
| Totals.....                                                                     | 14                 | 49,456                          | 57,326                  | 76,079               | 48,650             | 52,799.94    | 36,136            |
| <i>From Europe to west coast of South<br/>America:</i>                          |                    |                                 |                         |                      |                    |              |                   |
| British.....                                                                    | 7                  | 24,374                          | 32,542                  | 39,320               | 24,450             | 30,467.50    | 20,294            |
| German.....                                                                     | 2                  | 5,528                           | 6,886                   | 8,926                | 5,562              | 6,910.00     | 9,029             |
| United States.....                                                              | 1                  | 3,751                           | 4,503                   | 6,263                | 3,738              | 4,688.75     | 7,132             |
| French.....                                                                     | 1                  | 3,600                           | 4,146                   | 5,765                | 3,681              | 4,500.00     | 474               |
| Danish.....                                                                     | 1                  | 3,268                           | 5,338                   | 5,259                | 3,301              | 4,085.00     | 5,334             |
| Chilean.....                                                                    | 1                  | 2,754                           | 3,442                   | 5,961                | 2,981              | 3,442.50     | 2,672             |
| Dutch.....                                                                      | 1                  | 2,290                           | 3,660                   | 3,689                | 2,291              | 2,862.50     | 3,025             |
| Totals.....                                                                     | 14                 | 45,565                          | 60,517                  | 75,183               | 46,004             | 56,956.25    | 47,963            |
| <i>From Cristobal to west coast of<br/>South America:</i>                       |                    |                                 |                         |                      |                    |              |                   |
| British.....                                                                    | 4                  | 1,325                           | 1,720                   | 2,391                | 1,465              | 1,656.25     | 568               |
| Peruvian.....                                                                   | 3                  | 4,225                           | 8,296                   | 13,764               | 7,190              | 5,281.25     | 1,163             |
| United States.....                                                              | 1                  | 1,418                           | 2,113                   | 2,458                | 1,481              | 1,772.50     | 80                |
| Chilean.....                                                                    | 1                  | 1,275                           | 2,156                   | 2,729                | 1,633              | 1,593.75     | 1,016             |
| Totals.....                                                                     | 9                  | 8,243                           | 14,285                  | 21,342               | 11,769             | 10,303.75    | 2,827             |
| <i>From Europe to Australasia:</i>                                              |                    |                                 |                         |                      |                    |              |                   |
| British.....                                                                    | 7                  | 36,799                          | 44,934                  | 57,759               | 37,215             | 45,920.00    | 29,357            |
| <i>From east coast of United States to<br/>Australasia:</i>                     |                    |                                 |                         |                      |                    |              |                   |
| British.....                                                                    | 6                  | 25,811                          | 33,204                  | 40,013               | 26,082             | 32,077.35    | 32,884            |
| United States.....                                                              | 1                  | 4,335                           | 4,321                   | 5,716                | 4,271              | 5,185.20     | 4,293             |
| Totals.....                                                                     | 7                  | 30,146                          | 37,525                  | 45,729               | 30,353             | 37,262.55    | 37,177            |
| <i>From Europe to west coast of Can-<br/>ada:</i>                               |                    |                                 |                         |                      |                    |              |                   |
| British.....                                                                    | 2                  | 8,067                           | 11,802                  | 12,875               | 8,158              | 10,083.75    | 12,569            |
| Dutch.....                                                                      | 2                  | 7,656                           | 9,427                   | 11,990               | 7,560              | 9,570.00     | 9,338             |
| French.....                                                                     | 1                  | 4,879                           | 4,959                   | 6,674                | 4,230              | 5,950.80     | 1,902             |
| Totals.....                                                                     | 5                  | 20,602                          | 26,188                  | 31,539               | 19,948             | 25,604.55    | 23,809            |
| <i>From Europe to west coast of United<br/>States:</i>                          |                    |                                 |                         |                      |                    |              |                   |
| British.....                                                                    | 4                  | 20,508                          | 22,745                  | 29,318               | 20,994             | 16,559.19    | 8,404             |
| Swedish.....                                                                    | 1                  | 3,129                           | 5,122                   | 6,293                | 4,046              | 3,911.25     | 8,404             |
| Totals.....                                                                     | 5                  | 23,637                          | 27,867                  | 35,611               | 25,040             | 20,470.44    | 8,404             |

## ATLANTIC TO PACIFIC—Continued.

| Route and registry.                                                     | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.      | Tons of cargo.    |
|-------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|-------------|-------------------|
|                                                                         |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |             |                   |
| <i>From east coast of Mexico to west coast of South America:</i>        |                 |                           |                   |                   |                 |             | <i>Long tons.</i> |
| British.....                                                            | 2               | 9,423                     | 10,501            | 15,767            | 9,121           | \$11,778.75 | 20,388            |
| United States.....                                                      | 1               | 4,203                     | 5,041             | 6,703             | 4,203           | 5,253.75    | 9,500             |
| French.....                                                             | 1               | 2,155                     | 2,096             | 2,953             | 1,880           | 2,515.20    | 3,000             |
| Totals.....                                                             | 4               | 15,781                    | 17,638            | 25,423            | 15,204          | 19,547.70   | 32,888            |
| <i>From east coast of United States to Balboa, C. Z.:</i>               |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 2               | 5,287                     | 6,187             | 8,864             | 5,232           | 6,608.75    | 6,363             |
| <i>From east coast of United States to west coast of Mexico:</i>        |                 |                           |                   |                   |                 |             |                   |
| Spanish.....                                                            | 1               | 3,031                     | 3,437             | 4,648             | 2,877           | 2,503.44    | 40                |
| Mexican.....                                                            | 1               | 786                       | 952               | 1,462             | 892             | 685.44      | .....             |
| Totals.....                                                             | 2               | 3,817                     | 4,389             | 6,110             | 3,769           | 3,188.88    | 40                |
| <i>Colombian coastwise:</i>                                             |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 1,418                     | 2,113             | 2,458             | 1,481           | 1,772.50    | 64                |
| British.....                                                            | 1               | 614                       | 622               | 1,138             | 602             | 746.40      | 606               |
| Totals.....                                                             | 2               | 2,032                     | 2,735             | 3,596             | 2,083           | 2,518.90    | 670               |
| <i>From Cristobal to west coast of Central America:</i>                 |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 2               | 1,495                     | 1,724             | 2,618             | 1,544           | 1,868.75    | 1,497             |
| <i>From east coast of Mexico to Balboa, C. Z.:</i>                      |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 4,645                     | 5,311             | 7,270             | 4,513           | 5,806.25    | 9,600             |
| <i>From east coast of Canada to west coast of South America:</i>        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 5,166                     | 6,096             | 8,461             | 5,960           | 4,389.12    | .....             |
| <i>From east coast of South America to west coast of United States:</i> |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 4,308                     | 5,054             | 5,579             | 4,172           | 5,385.00    | 5,300             |
| <i>From east coast of South America to Far East:</i>                    |                 |                           |                   |                   |                 |             |                   |
| Japanese.....                                                           | 1               | 3,590                     | 4,101             | 5,760             | 3,548           | 4,487.50    | 5,064             |
| <i>From West Indies to west coast of Canada:</i>                        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 3,571                     | 4,143             | 5,443             | 3,363           | 4,463.75    | 7,338             |
| <i>From east coast of Canada to Australasia:</i>                        |                 |                           |                   |                   |                 |             |                   |
| British.....                                                            | 1               | 3,245                     | 4,092             | 5,399             | 3,333           | 4,056.25    | 2,500             |
| <i>From east coast of United States to west coast of Canada:</i>        |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 2,866                     | 4,225             | 4,621             | 2,866           | 3,582.50    | 5,500             |
| <i>From Cristobal to west coast of United States:</i>                   |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 1,654                     | 2,163             | 2,643             | 1,654           | 2,067.50    | 1,330             |
| <i>Local, Cristobal to Balboa:</i>                                      |                 |                           |                   |                   |                 |             |                   |
| United States.....                                                      | 1               | 10                        | 10                | 10                | 10              | 12.00       | .....             |
|                                                                         |                 |                           |                   |                   |                 | 71.19       | .....             |
| Totals, June, 1923.....                                                 | 135             | 476,105                   | 594,196           | 752,082           | 479,291         | 571,161.36  | 586,377           |
| Totals, May, 1922.....                                                  | 134             | 472,852                   | 594,713           | 742,419           | 467,705         | 578,433.82  | 673,398           |
| Totals, June, 1921.....                                                 | 103             | 336,515                   | 415,302           | 520,884           | 331,420         | 416,543.07  | 359,584           |

\* Under collection for February, 1922. British steamship *Gothic Star*.

## PACIFIC TO ATLANTIC.

|                                                                         |    |        |         |         |        |              |                   |
|-------------------------------------------------------------------------|----|--------|---------|---------|--------|--------------|-------------------|
| <i>United States coastwise:</i>                                         |    |        |         |         |        |              | <i>Long tons.</i> |
| United States.....                                                      | 25 | 92,557 | 121,156 | 147,605 | 91,916 | \$113,554.60 | 113,692           |
| <i>From west coast of South America to east coast of United States:</i> |    |        |         |         |        |              |                   |
| British.....                                                            | 5  | 16,544 | 19,470  | 26,106  | 16,698 | 20,651.05    | 24,471            |
| United States.....                                                      | 5  | 14,427 | 17,459  | 22,681  | 14,939 | 17,871.95    | 23,788            |
| Norwegian.....                                                          | 2  | 6,112  | 6,698   | 8,534   | 6,107  | 7,364.05     | 11,272            |
| Totals.....                                                             | 12 | 37,083 | 43,627  | 57,321  | 37,744 | 45,887.05    | 59,531            |



## PACIFIC TO ATLANTIC—Continued.

| Route and registry.                                                       | No. of vessels. | TONNAGE.                  |                   |                   |                 | Tolls.     | Tons of cargo.    |
|---------------------------------------------------------------------------|-----------------|---------------------------|-------------------|-------------------|-----------------|------------|-------------------|
|                                                                           |                 | United States equivalent. | Panama Canal net. | Registered gross. | Registered net. |            |                   |
| <i>From west coast of South America to Cristobal, C. Z.:</i>              |                 |                           |                   |                   |                 |            | <i>Long tons.</i> |
| British.....                                                              | 4               | 1,325                     | 1,720             | 2,391             | 1,465           | \$1,656.25 | 1,233             |
| Peruvian.....                                                             | 3               | 4,225                     | 8,296             | 13,764            | 7,190           | 5,281.25   | 4,434             |
| Chilean.....                                                              | 2               | 3,086                     | 5,338             | 6,527             | 3,905           | 3,857.50   | 782               |
| United States.....                                                        | 2               | 2,836                     | 4,226             | 4,916             | 2,962           | 3,545.00   | 1,895             |
| Totals.....                                                               | 11              | 11,472                    | 19,580            | 27,598            | 15,522          | 14,340.00  | 8,344             |
| <i>From west coast of South America to Europe:</i>                        |                 |                           |                   |                   |                 |            |                   |
| British.....                                                              | 3               | 12,964                    | 14,064            | 18,262            | 11,036          | 15,972.55  | 15,369            |
| Dutch.....                                                                | 2               | 4,399                     | 7,452             | 7,107             | 4,396           | 5,498.75   | 7,627             |
| German.....                                                               | 1               | 4,446                     | 5,154             | 7,056             | 4,493           | 5,557.50   | 4,628             |
| Danish.....                                                               | 1               | 4,257                     | 5,341             | 6,650             | 4,247           | 5,321.25   | 4,570             |
| Italian.....                                                              | 1               | 2,718                     | 3,773             | 4,680             | 2,850           | 3,397.50   | 400               |
| Totals.....                                                               | 8               | 28,784                    | 35,784            | 43,755            | 27,022          | 35,747.55  | 32,594            |
| <i>From west coast of Canada to Europe:</i>                               |                 |                           |                   |                   |                 |            |                   |
| Dutch.....                                                                | 2               | 10,626                    | 13,619            | 17,050            | 10,610          | 13,295.00  | 18,529            |
| French.....                                                               | 2               | 7,957                     | 8,529             | 11,721            | 7,455           | 9,774.35   | 12,161            |
| British.....                                                              | 1               | 5,297                     | 6,334             | 8,401             | 5,341           | 6,621.25   | 10,737            |
| United States.....                                                        | 1               | 3,465                     | 5,454             | 5,718             | 3,472           | 4,331.25   | 8,208             |
| Danish.....                                                               | 1               | 3,244                     | 4,016             | 5,219             | 3,337           | 4,055.00   | 5,944             |
| Totals.....                                                               | 7               | 30,599                    | 37,952            | 48,109            | 30,215          | 38,076.85  | 55,579            |
| <i>From west coast of United States to Europe:</i>                        |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                        | 3               | 14,107                    | 17,830            | 20,209            | 12,411          | 17,633.75  | 28,499            |
| British.....                                                              | 3               | 9,496                     | 11,973            | 14,880            | 9,560           | 11,870.00  | 21,042            |
| Totals.....                                                               | 6               | 23,603                    | 29,803            | 35,089            | 21,971          | 29,503.75  | 49,541            |
| <i>From west coast of Canada to United States:</i>                        |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                        | 4               | 18,974                    | 23,481            | 28,296            | 18,954          | 23,717.50  | 21,908            |
| <i>From Far East to east coast of United States:</i>                      |                 |                           |                   |                   |                 |            |                   |
| Japanese.....                                                             | 3               | 13,762                    | 16,857            | 21,813            | 13,486          | 17,202.50  | 19,936            |
| <i>From west coast of Central America to Cristobal:</i>                   |                 |                           |                   |                   |                 |            |                   |
| British.....                                                              | 3               | 2,133                     | 2,430             | 3,788             | 2,198           | 2,666.25   | 2,288             |
| <i>From west coast of South America to east coast of Mexico:</i>          |                 |                           |                   |                   |                 |            |                   |
| British.....                                                              | 2               | 9,690                     | 10,990            | 15,700            | 9,348           | 7,912.80   | .....             |
| <i>From west coast of United States to Cristobal:</i>                     |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                        | 2               | 3,516                     | 4,369             | 5,812             | 3,516           | 4,395.00   | 1,629             |
| <i>From Australasia to Europe:</i>                                        |                 |                           |                   |                   |                 |            |                   |
| British.....                                                              | 1               | 5,544                     | 6,581             | 8,734             | 5,543           | 6,930.00   | 5,440             |
| <i>From Balboa, C. Z., to east coast of Mexico:</i>                       |                 |                           |                   |                   |                 |            |                   |
| British.....                                                              | 1               | 4,645                     | 5,311             | 7,270             | 4,513           | 3,823.92   | .....             |
| <i>From Balboa, C. Z., to east coast of United States:</i>                |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                        | 1               | 4,456                     | 5,312             | 7,045             | 4,352           | 3,824.64   | .....             |
| <i>From west coast of United States to east coast of South America:</i>   |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                        | 1               | 3,537                     | 4,901             | 5,657             | 3,536           | 4,421.25   | 2,454             |
| <i>From Australasia to east coast of United States:</i>                   |                 |                           |                   |                   |                 |            |                   |
| British.....                                                              | 1               | 2,872                     | 3,401             | 4,665             | 2,892           | 3,590.00   | 4,500             |
| <i>From west coast of Central America to east coast of United States:</i> |                 |                           |                   |                   |                 |            |                   |
| Norwegian.....                                                            | 1               | 1,845                     | 2,113             | 2,735             | 1,721           | 2,306.25   | 2,129             |
| <i>From west coast of Central America to Europe:</i>                      |                 |                           |                   |                   |                 |            |                   |
| German.....                                                               | 1               | 1,124                     | 1,320             | 1,928             | 1,136           | 1,405.00   | 2,120             |
| <i>Colombian coastwise:</i>                                               |                 |                           |                   |                   |                 |            |                   |
| British.....                                                              | 1               | 614                       | 622               | 1,138             | 602             | 746.40     | 106               |
| <i>Local, Balboa to Cristobal:</i>                                        |                 |                           |                   |                   |                 |            |                   |
| United States.....                                                        | 1               | 831                       | 875               | 1,819             | 880             | 1,038.75   | .....             |
| Panamanian.....                                                           | 1               | 52                        | 52                | 79                | 52              | 39.00      | .....             |
| Totals.....                                                               | 2               | 883                       | 927               | 1,898             | 932             | 1,077.75   | .....             |
| Totals, June, 1922.....                                                   | 93              | 297,693                   | 376,517           | 475,956           | 297,119         | 361,129.06 | 391,161           |
| Totals, May, 1922.....                                                    | 109             | 355,831                   | 438,103           | 555,134           | 354,585         | 436,623.55 | 485,109           |
| Totals, June, 1921.....                                                   | 89              | 277,379                   | 346,175           | 439,973           | 279,071         | 335,421.05 | 335,136           |

# MOVEMENTS OF OCEAN VESSELS. Week ending at midnight, July 8, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                            | Length. | Beam. | Salt water draft. | From—        | For—           | Cargo.           |        | Panama Canal tonnage. |       |
|----------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------------------|---------|-------|-------------------|--------------|----------------|------------------|--------|-----------------------|-------|
|                      | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                  |         |       |                   |              |                | Nature.          | Tons.  | Gross.                | Net.  |
| Cayo Romain          | 30               | 7 05  | 2              | 6 20  | 2                  | 13 42 | 2                | 14 58 | American     | Atl. Gulf & Pacific Co. (S. B.). | 376 0   | 52 0  | 25 5              | New York     | Portland       | General          | 5,242  | 5,142                 | 3,568 |
| Huasco               | 28               | 20 40 | 2              | 7 25  | 2                  | 14 40 | 2                | 16 08 | Chilean      | North American Steamship Co.     | 380 0   | 44 0  | 23 0              | Cristobal    | Valparaiso     | General          | 410    | 4,552                 | 3,182 |
| Peking Maru.         | 2                | 6 27  | 2              | 8 05  | 2                  | 15 30 | 2                | 16 48 | Japanese     | Nippon Yusen Kaisha              | 404 0   | 52 0  | 24 0              | New York     | Shanghai       | General          | 5,040  | 5,785                 | 4,101 |
| Gutha                | 30               | 17 46 | 2              | 12 30 | 2                  | 18 34 | 2                | 15 10 | American     | Pacific Mail Steamship Co.       | 307 8   | 42 0  | 20 10             | Cristobal    | San Francisco  | General          | 1,356  | 3,429                 | 2,206 |
| Waukegan             | 2                | 7 50  | 2              | 6 30  | 2                  | 13 52 | 2                | 15 10 | American     | U. S. Army                       | 395 0   | 55 0  | 21 3              | New York     | San Francisco  | Army stores      | 9,000  |                       |       |
| Steel Exporter       | 2                | 19 53 | 2              | 7 30  | 2                  | 14 50 | 2                | 15 50 | American     | Isthmian Steamship Line          | 424 2   | 56 2  | 27 5              | New Orleans  | Kobe           | General          | 8,047  | 7,611                 | 5,450 |
| North American       | 2                | 6 20  | 2              | 12 10 | 2                  | 19 10 | 2                | 20 23 | British      | North American Steamship Co.     | 251 0   | 43 0  | 22 5              | Mobile       | Valparaiso     | Coke, coal, gen. | 2,900  | 2,441                 | 1,571 |
| Havre Maru           | 3                | 6 23  | 4              | 6 25  | 4                  | 13 56 | 4                | 15 08 | Japanese.    | Ozaka Steamship Co.              | 407 3   | 50 0  | 26 10             | New York     | Singapore      | General, steel   | 6,768  | 6,234                 | 4,496 |
| Albertville          | 4                | 7 35  | 4              | 7 30  | 4                  | 13 46 | 4                | 21 10 | British      | Imperial Oil Co.                 | 463 3   | 60 2  | 17 0              | New York     | Talara         | Ballast          | 8,401  | 6,006                 |       |
| Imperial             | 4                | 7 35  | 4              | 8 00  | 4                  | 16 43 | 5                | 10 45 | British      | Imperial Oil Co.                 | 199 6   | 32 0  | 14 6              | New York     | Talara         | Gasoline.        | 907    | 873                   | 386   |
| Walter A.            | 5                | 5 15  | 5              | 7 38  | 5                  | 14 53 | 5                | 16 20 | American     | Lockenbach Line                  | 446 5   | 56 1  | 25 0              | Boston       | Los Angeles.   | General          | 4,800  | 8,785                 | 6,567 |
| Osterdorf            | 4                | 13 27 | 5              | 12 55 | 5                  | 19 55 | 5                | 20 53 | German.      | Vincent Gebhardt                 | 311 0   | 45 0  | 15 3              | Hamburg      | Panama.        | General          | 770    | 3,413                 | 2,406 |
| Salvador             | 29               | 13 50 | 6              | 6 16  | 6                  | 13 20 | 6                | 16 30 | British      | Pacific Steam Navigation Co.     | 215 0   | 33 5  | 14 5              | Cristobal    | Guayaquil      | General          | 416    | 1,913                 | 692   |
| Terner               | 5                | 23 15 | 6              | 7 29  | 6                  | 15 04 | 6                | 23 50 | Norwegian.   | W. Wilhelmsen                    | 400 0   | 32 0  | 24 0              | Grainmouth   | San Antonio    | Coke             | 5,175  | 5,039                 | 4,106 |
| Thomas P. Beal       | 6                | 5 35  | 6              | 8 18  | 6                  | 15 38 | 6                | 16 40 | American     | Crowell & Thurlow                | 394 1   | 55 1  | 23 0              | New York     | Seattle        | General          | 5,195  | 7,047                 | 4,998 |
| Empress of Australia | 1                | 17 15 | 6              | 9 15  | 6                  | 17 39 | 6                | 18 45 | British      | Canadian Pacific Railway         | 589 0   | 75 0  | 27 7              | Humburg      | Vancouver      | Ballast          |        |                       |       |
| Steel Maker.         | 6                | 6 00  | 6              | 10 50 | 6                  | 18 35 | 6                | 19 35 | American     | U. S. Steel Products Co.         | 385 5   | 55 0  | 27 0              | New Orleans  | Kobe           | Cotton, steel    | 7,957  | 7,285                 | 5,256 |
| City of Los Angeles. | 6                | 12 09 | 6              | 11 22 | 6                  | 19 30 | 6                | 6 51  | American     | N. Atl. & Pac. S. S. Co. (S. B.) | 580 4   | 62 3  | 27 0              | New York     | Los Angeles.   | Ballast          | 15,041 | 9,704                 |       |
| Ningchow             | 6                | 6 00  | 6              | 12 40 | 6                  | 20 30 | 6                | 21 45 | British      | China Mutual Steam Nav. Co.      | 400 6   | 58 3  | 29 10             | New York     | Yokohama       | General          | 9,010  | 9,468                 | 6,709 |
| Arctic               | 6                | 17 04 | 7              | 6 20  | 7                  | 13 48 | 7                | 14 00 | American     | U. S. Navy.                      | 402 0   | 53 0  | 22 0              | Hampton Rds. | San Francisco  | Provisions       | 3,500  |                       |       |
| H. M. Storey         | 6                | 15 53 | 7              | 7 35  | 7                  | 14 46 | 7                | 15 30 | American     | Standard Oil Co.                 | 500 0   | 68 2  | 23 0              | London.      | San Francisco  | Ballast          | 11,224 | 7,819                 |       |
| Opawa                | 7                | 2 18  | 7              | 8 50  | 7                  | 16 24 | 7                | 17 40 | British.     | New Zealand Shipping Co.         | 460 7   | 60 2  | 29 4              | New York     | Auckland       | General          | 5,918  | 9,967                 | 6,366 |
| Orestes              | 6                | 5 45  | 7              | 11 56 | 7                  | 19 52 | 7                | 19 52 | Dutch.       | Royal Netherlands W. I. Mail.    | 363 0   | 48 0  | 13 10             | Amsterdam    | Corral         | General          | 1,430  | 4,167                 | 3,083 |
| Venezuela.           | 6                | 23 55 | 8              | 6 10  | 8                  | 13 39 | 8                | 22 30 | American     | Pacific Mail Steamship Co.       | 380 0   | 48 7  | 23 0              | Baltimore.   | San Francisco  | General          | 3,000  | 6,033                 | 4,353 |
| Flora                | 29               | 11 07 | 8              | 6 50  | 8                  | 18 17 | 8                | 18 17 | American     | Southern Shipping Co.            | 244 0   | 38 0  | 20 0              | Wilmington.  | Shanghai       | General          | 2,624  | 1,658                 | 1,492 |
| Nyanza               | 7                | 18 36 | 8              | 7 45  | 8                  | 15 28 | 8                | 16 25 | American     | Moore & McCormack Co. (S. B.)    | 405 4   | 55 2  | 26 6              | New Orleans. | Seattle        | General          | 7,000  | 6,240                 | 4,434 |
| Gowick               | 8                | 12 11 | 8              | 9 30  | 8                  | 17 43 | 8                | 18 40 | American     | California & Oregon Lumber Co.   | 263 4   | 43 6  | 20 6              | Baltimore.   | San Francisco  | General          | 2,370  | 2,765                 | 1,733 |
| Ucayali.             | 3                | 16 34 | 8              | 11 09 | 8                  | 18 44 | 8                | 23 10 | Peruvian     | Peruvian Line.                   | 374 0   | 46 0  | 18 3              | Cristobal    | Callao.        | General          | 245    | 4,466                 | 2,405 |
| D. G. Seafeld.       | 8                | 13 10 | 8              | 13 35 | 8                  | 20 35 | 8                | 21 40 | American     | Standard Oil Co.                 | 440 0   | 58 0  | 21 0              | New York.    | San Francisco. | General and oil. | 3,253  | 8,912                 | 6,254 |

Bark.

U. S. Navy supply ship.

THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Ship.      | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                | Length. | Beam. | Salt water draft. | From—       | For—        | Cargo.          |       | Panama Canal tonnage. |       |
|------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|----------------------|---------|-------|-------------------|-------------|-------------|-----------------|-------|-----------------------|-------|
|            | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                      |         |       |                   |             |             | Nature.         | Tons. | Gross.                | Net.  |
| Lombardia. | 1                | 20 00 | 2              | 9 07  | 2                  | 16 45 | 2                | 18 05 | Swedish      | Svenska Lloyd        | 271 2   | 41 6  | 19 0              | Talcahuano  | New Orleans | Nitrate.        | 2,708 | 2,359                 | 1,399 |
| Loie.      | 2                | 11 30 | 3              | 6 49  | 3                  | 13 50 | 3                | 13 54 | British      | White Star Line.     | 500 3   | 63 3  | 26 8              | Wellington. | London      | General         | 5,000 | 12,872                | 9,577 |
| Kennecott  | 2                | 12 05 | 3              | 8 07  | 3                  | 15 42 | 3                | 17 07 | American     | Alaska Steamship Co. | 345 3   | 49 6  | 22 6              | Seattle     | New York    | General, lumber | 4,588 | 4,394                 | 3,381 |

U. S. Army transport.

| Ship           | Date    | From     | Vessel  | Line    | Arrivals | Departures | General, lumber | New York | Seattle | Callao  | Valparaiso | Talcahuano | Copra   | Ballast | Wheat   | Lumber  | General | Oil     |
|----------------|---------|----------|---------|---------|----------|------------|-----------------|----------|---------|---------|------------|------------|---------|---------|---------|---------|---------|---------|
| Selma City     | 2 14 05 | American | 3 23 35 | 3 15 27 | 3 8 12   | 3 8 12     | 3 23 35         | 3 15 27  | 3 8 12  | 3 8 12  | 3 8 12     | 3 8 12     | 3 8 12  | 3 8 12  | 3 8 12  | 3 8 12  | 3 8 12  | 3 8 12  |
| Uyall          | 2 20 00 | Peruvian | 3 11 09 | 3 16 34 | 3 8 37   | 3 8 37     | 3 11 09         | 3 16 34  | 3 8 37  | 3 8 37  | 3 8 37     | 3 8 37     | 3 8 37  | 3 8 37  | 3 8 37  | 3 8 37  | 3 8 37  | 3 8 37  |
| Pear Branch    | 3 1 00  | British  | 3 22 48 | 3 18 15 | 3 9 17   | 3 9 17     | 3 22 48         | 3 18 15  | 3 9 17  | 3 9 17  | 3 9 17     | 3 9 17     | 3 9 17  | 3 9 17  | 3 9 17  | 3 9 17  | 3 9 17  | 3 9 17  |
| Santa Teresa   | 3 5 15  | American | 3 20 47 | 3 16 45 | 3 10 29  | 3 10 29    | 3 20 47         | 3 16 45  | 3 10 29 | 3 10 29 | 3 10 29    | 3 10 29    | 3 10 29 | 3 10 29 | 3 10 29 | 3 10 29 | 3 10 29 | 3 10 29 |
| Grelstone      | 3 7 00  | British  | 3 22 09 | 3 18 37 | 3 12 09  | 3 12 09    | 3 22 09         | 3 18 37  | 3 12 09 | 3 12 09 | 3 12 09    | 3 12 09    | 3 12 09 | 3 12 09 | 3 12 09 | 3 12 09 | 3 12 09 | 3 12 09 |
| Toro           | 3 10 35 | British  | 3 16 49 | 3 19 40 | 3 12 09  | 3 12 09    | 3 16 49         | 3 19 40  | 3 12 09 | 3 12 09 | 3 12 09    | 3 12 09    | 3 12 09 | 3 12 09 | 3 12 09 | 3 12 09 | 3 12 09 | 3 12 09 |
| Aden Maru      | 3 20 00 | Japanese | 4 15 09 | 4 15 09 | 4 7 52   | 4 7 52     | 4 15 09         | 4 15 09  | 4 7 52  | 4 7 52  | 4 7 52     | 4 7 52     | 4 7 52  | 4 7 52  | 4 7 52  | 4 7 52  | 4 7 52  | 4 7 52  |
| Glasgow Maru   | 4 23 00 | Japanese | 5 16 37 | 5 15 30 | 5 7 53   | 5 7 53     | 5 16 37         | 5 15 30  | 5 7 53  | 5 7 53  | 5 7 53     | 5 7 53     | 5 7 53  | 5 7 53  | 5 7 53  | 5 7 53  | 5 7 53  | 5 7 53  |
| Agwistar       | 5 4 00  | American | 6 11 25 | 5 16 50 | 5 8 02   | 5 8 02     | 6 11 25         | 5 16 50  | 5 8 02  | 5 8 02  | 5 8 02     | 5 8 02     | 5 8 02  | 5 8 02  | 5 8 02  | 5 8 02  | 5 8 02  | 5 8 02  |
| Cardiganshire  | 5 4 30  | British  | 7 1 11  | 6 14 45 | 5 9 42   | 5 9 42     | 7 1 11          | 6 14 45  | 5 9 42  | 5 9 42  | 5 9 42     | 5 9 42     | 5 9 42  | 5 9 42  | 5 9 42  | 5 9 42  | 5 9 42  | 5 9 42  |
| Almagro        | 5 15 35 | British  | 7 1 11  | 6 14 45 | 5 9 42   | 5 9 42     | 7 1 11          | 6 14 45  | 5 9 42  | 5 9 42  | 5 9 42     | 5 9 42     | 5 9 42  | 5 9 42  | 5 9 42  | 5 9 42  | 5 9 42  | 5 9 42  |
| Blue Triangle  | 5 18 00 | American | 7 3 15  | 6 16 50 | 6 8 05   | 6 8 05     | 7 3 15          | 6 16 50  | 6 8 05  | 6 8 05  | 6 8 05     | 6 8 05     | 6 8 05  | 6 8 05  | 6 8 05  | 6 8 05  | 6 8 05  | 6 8 05  |
| Eastern Planet | 6 3 00  | American | 6 20 50 | 6 16 55 | 6 9 33   | 6 9 33     | 6 20 50         | 6 16 55  | 6 9 33  | 6 9 33  | 6 9 33     | 6 9 33     | 6 9 33  | 6 9 33  | 6 9 33  | 6 9 33  | 6 9 33  | 6 9 33  |
| Benjamin       | 5 22 30 | American | 6 18 00 | 6 18 00 | 6 10 27  | 6 10 27    | 6 18 00         | 6 18 00  | 6 10 27 | 6 10 27 | 6 10 27    | 6 10 27    | 6 10 27 | 6 10 27 | 6 10 27 | 6 10 27 | 6 10 27 | 6 10 27 |
| Brewster       | 6 0 30  | British  | 6 22 00 | 6 20 00 | 6 12 45  | 6 12 45    | 6 22 00         | 6 20 00  | 6 12 45 | 6 12 45 | 6 12 45    | 6 12 45    | 6 12 45 | 6 12 45 | 6 12 45 | 6 12 45 | 6 12 45 | 6 12 45 |
| Petrolia       | 6 8 30  | British  | 7 15 50 | 7 14 32 | 7 9 04   | 7 9 04     | 7 15 50         | 7 14 32  | 7 9 04  | 7 9 04  | 7 9 04     | 7 9 04     | 7 9 04  | 7 9 04  | 7 9 04  | 7 9 04  | 7 9 04  | 7 9 04  |
| Menatula       | 6 8 30  | British  | 7 15 50 | 7 14 32 | 7 9 04   | 7 9 04     | 7 15 50         | 7 14 32  | 7 9 04  | 7 9 04  | 7 9 04     | 7 9 04     | 7 9 04  | 7 9 04  | 7 9 04  | 7 9 04  | 7 9 04  | 7 9 04  |
| May            | 7 1 45  | American | 7 15 14 | 7 15 14 | 7 7 58   | 7 7 58     | 7 15 14         | 7 15 14  | 7 7 58  | 7 7 58  | 7 7 58     | 7 7 58     | 7 7 58  | 7 7 58  | 7 7 58  | 7 7 58  | 7 7 58  | 7 7 58  |
| A. L. Kent     | 7 1 45  | American | 7 15 14 | 7 15 14 | 7 7 58   | 7 7 58     | 7 15 14         | 7 15 14  | 7 7 58  | 7 7 58  | 7 7 58     | 7 7 58     | 7 7 58  | 7 7 58  | 7 7 58  | 7 7 58  | 7 7 58  | 7 7 58  |
| Aysen          | 7 1 45  | Chilean  | 8 18 54 | 8 18 54 | 7 7 48   | 7 7 48     | 8 18 54         | 8 18 54  | 7 7 48  | 7 7 48  | 7 7 48     | 7 7 48     | 7 7 48  | 7 7 48  | 7 7 48  | 7 7 48  | 7 7 48  | 7 7 48  |
| Yacon          | 7 20 40 | British  | 8 22 57 | 8 22 57 | 8 12 26  | 8 12 26    | 8 22 57         | 8 22 57  | 8 12 26 | 8 12 26 | 8 12 26    | 8 12 26    | 8 12 26 | 8 12 26 | 8 12 26 | 8 12 26 | 8 12 26 | 8 12 26 |
| Koyo Maru      | 8 13 15 | Japanese | 8 21 34 | 8 21 34 | 8 14 10  | 8 14 10    | 8 21 34         | 8 21 34  | 8 14 10 | 8 14 10 | 8 14 10    | 8 14 10    | 8 14 10 | 8 14 10 | 8 14 10 | 8 14 10 | 8 14 10 | 8 14 10 |
| La Paz         | 8 6 00  | British  | 9 20 35 | 8 22 55 | 8 14 25  | 8 14 25    | 9 20 35         | 8 22 55  | 8 14 25 | 8 14 25 | 8 14 25    | 8 14 25    | 8 14 25 | 8 14 25 | 8 14 25 | 8 14 25 | 8 14 25 | 8 14 25 |

\* Commercial launch.

\* Nitrate, ores, specie, and general.

\* Grain, canned goods, and general.

\* General and lumber.

\* Chrome, ores, wood, and general.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

PORT OF CRISTOBAL.

| *ARRIVALS.      |                   |                                |                           |        | *DEPARTURES.        |                                 |                           |  |  |
|-----------------|-------------------|--------------------------------|---------------------------|--------|---------------------|---------------------------------|---------------------------|--|--|
| Date            | Vessel            | Line                           | From                      | Date   | Vessel              | Line                            | For                       |  |  |
| July 2          | Turrialba         | United Fruit Co.               | New Orleans via Habana.   | July 1 | Gen. W. C. Gorgas.  | Panama Railroad Steamship Line. | New York via Haiti.       |  |  |
| July 2          | San Benito        | United Fruit Co.               | Boston via Port Limon.    | July 2 | San Benito.         | United Fruit Co.                | Boston.                   |  |  |
| July 3          | Panama            | Panama Railroad Steamship Line | New York via Port Limon.  | July 3 | Turrialba           | United Fruit Co.                | Bocas del Toro.           |  |  |
| July 3          | Cartago           | United Fruit Co.               | New Orleans.              | July 3 | Adala               | Hamburg-American Line.          | Cartagena.                |  |  |
| July 3          | Adala             | Hamburg-American Line          | Puerto Barrios.           | July 5 | Oranie Nassau       | Royal Netherlands W. I. Mail.   | Port Limon.               |  |  |
| July 4          | Camden            | United Fruit Co.               | Tampico.                  | July 5 | Pastores            | United Fruit Co.                | New York via wayports.    |  |  |
| July 4          | Pastores          | Royal Netherlands W. I. Mail.  | Amsterdam via wayports.   | July 6 | Camden              | United Fruit Co.                | Tampico.                  |  |  |
| July 4          | Haiti             | French Line                    | St. Nazaire and wayports. | July 6 | Cartago             | United Fruit Co.                | New Orleans via wayports. |  |  |
| July 5          | Turrialba         | United Fruit Co.               | Bocas del Toro.           | July 6 | Turrialba           | United Fruit Co.                | New Orleans.              |  |  |
| July 5          | San Blas          | United Fruit Co.               | Bocas del Toro.           | July 6 | Cristobal           | Panama Railroad Steamship Line  | Norfolk.                  |  |  |
| July 6          | El Paso           | Southern Pacific Line          | Guatemala.                | July 6 | Haiti               | French Line.                    | Puerto Colombia.          |  |  |
| July 6          | John Worthington  | Standard Oil Co.               | Puerto Lobos.             | July 8 | San Blas            | Elders & Fyffes, Ltd.           | Boston via Port Limon.    |  |  |
| July 7          | Oranie Nassau     | Royal Netherlands W. I. Mail.  | Port Limon.               | July 8 | El Paso             | Southern Pacific Line           | Kingston.                 |  |  |
| July 7          | H. M. S. Wistaria | British Government             | Puerto Colombia.          | July 8 | Nitonian            | Leeward Line                    | New York.                 |  |  |
| July 8          | Coronado          | Elders & Fyffes, Ltd.          | Port Limon.               | July 8 | John Worthington    | Standard Oil Co.                | New Orleans via Kingston. |  |  |
| PORT OF BALBOA. |                   |                                |                           |        | Hongkong.           |                                 |                           |  |  |
|                 |                   |                                |                           |        | Chinese Government. |                                 |                           |  |  |
|                 |                   |                                |                           |        | Hwah Ping.          |                                 |                           |  |  |
|                 |                   |                                |                           |        | July 2.             |                                 |                           |  |  |

\* Other than ships passing through the Canal.



### Passage of the "Empress of Australia."

The steamer *Empress of Australia*, owned by the Canadian Pacific Railway, which arrived at the Canal on July 1 from Hamburg and made the transit on July 6, after receiving repairs at the Cristobal shops, was conspicuous in Canal waters on account of her size, and is one of the largest ships to have made the transit. She is 590 feet long by 75 feet in beam, and her gross and net tonnage, Panama Canal measurement, are 21,861 and 14,150 tons, respectively; her registered gross and net are 21,477 and 11,737 tons, respectively. Her tonnage and length are less than those of the *America*, which made the transit on February 6, 1920; the registered gross of the *America* is 22,622 tons, and her length is 668 feet 9 inches.

The *Empress of Australia* was built in Germany as the *Tirpitz*, and is on her way to enter the trans-Pacific service of the Canadian Pacific. Her passage through the Canal was made in ballast.

### Notice to Mariners.—Light Established, Flamenco Island, Balboa Harbor.

THE PANAMA CANAL, EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., July 5, 1922.

CIRCULAR NO. 643-100:

1. The white flashing light referred to in Circular No. 643-99, dated June 8, 1922, was established on July 1, 1922, on the S. W. side of Flamenco Island. Illuminant, electricity. Position, latitude  $8^{\circ} 54' 35''$  North, longitude  $79^{\circ} 31' 23''$  West.

2. Focal plane 160 feet, visible 20 miles, exhibited from square concrete pedestal, surmounted by lantern, painted white. Color of light, white, with red sector. Characteristic, 0.5 second light, 1.0 second dark; 2.0 seconds light, 1.5 seconds dark (one group of two flashes every 5 seconds). Showing white from  $110^{\circ}$  to  $185^{\circ}$ . Red sector from  $185^{\circ}$  to  $283^{\circ}$ . Owing to the background the light will not be visible from  $283^{\circ}$  to  $110^{\circ}$  through North.

(C. and G. Charts Nos. 952 and 953. H. O. Charts Nos. 1019, 1176, and 5001. H. O. Publication No. 30.)

JAY J. MORROW,

Governor.

### Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., July 6, 1922.

Master Oliver of steamship *Blue Triangle* at 11.35 a. m., July 5, Lat.  $7^{\circ} 55' N.$ , Long.  $79^{\circ} 42' W.$ , passed a large tree,  $45'$  long,  $2\frac{1}{2}'$  diameter, waterlogged and just awash. Very dangerous to navigation.

JAY J. MORROW,

Governor.

### Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., July 6, 1922.

The master of the steamship *Haiti* reports touching bottom at 1.5 to 3 fathoms where chart shows 16 to 20 fathoms. Approximate position, Lat.  $10^{\circ} 50' 54'' N.$ , Long.  $64^{\circ} 4' 10'' W.$  Point Carnero bears North  $69^{\circ}$  East, true, Las Tetras, west peak, North  $31^{\circ}$  West, Point Mangles, North  $4^{\circ}$  East.

JAY J. MORROW,

Governor.

### Postal and Cable Addresses of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."



### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Week Ending July 8, 1922.

| Name of vessel. | Line or charterer.                | Arrived.    | Departed.   | Cargo—       |              |
|-----------------|-----------------------------------|-------------|-------------|--------------|--------------|
|                 |                                   |             |             | Discharged   | Laded.       |
|                 |                                   |             |             | <i>Tons.</i> | <i>Tons.</i> |
| Cuba.....       | Pacific Mail Steamship Co.....    | July 3..... | July 3..... |              | 1            |
| Salvador.....   | Pacific Steam Navigation Co.....  | July 6..... | July 6..... |              | 5            |
| Orestes.....    | Royal Netherlands W. I. Mail..... | July 7..... | July 7..... | 20           |              |
| Venezuela.....  | Pacific Mail Steamship Co.....    | July 8..... | July 8..... |              | 2            |

### Ships at Canal Repair Shops.

The following vessels were at the Cristobal shops for repairs during the week ended July 10:

Steamships *Toco*, calk leaky rivets; expand all tubes and test cargo oil heaters, scale boilers; replace handrails at stern as directed, etc.; *Orestes*, repair compressor piston rod for ice machine; *H. M. Storey*, remove cleats and stud bolts from after tonnage hatch; *Panama*, install 4 locking bars on cargo lockers; repair hose reel and pipe covering over filler line in No. 2 hold; *Blue Triangle*, make valve stem for steering engine and 2 for ice machine; bore out ice machine valve guide brass and make new pin for same; schooner *Arabia*, make 1 new exhaust valve cage; steamship *Heredia*, bore out bushings as directed; launch *Conroy*, manufacture miscellaneous parts for magneto, etc.

### Deceased Employees.

The estates of the following deceased employees of The Panama Canal or The Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at the office of the Administrator of Estates at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

| Name.                                         | Check No. | Native of—       | Isthmian residence. | Employed by—           | Date of death. |
|-----------------------------------------------|-----------|------------------|---------------------|------------------------|----------------|
| Leopold A. Johnson...                         | 6885      | United States... | Balboa.....         | Mechanical Division... | June 30, 1922. |
| Emilio Maitin <i>alias</i> Maiten.....        | 22465     | Panama.....      | Panama.....         | Panama Railroad.....   | May 28, 1922.  |
| Bueba Henry, <i>alias</i> Henry Brabdoine.... | 45288     | Martinique.....  | Panama.....         | Health Department....  | June 18, 1922. |

### Coal Prices.

Inquiries received indicate that not all of the users of the Canal have ample information as to the prices of coal at the Canal.

The prices, under various conditions of delivery, are published from time to time in THE PANAMA CANAL RECORD and form a part of the Tariff, with supplements, all of which are distributed to steamship operators regularly and without charge. Files of these publications may be consulted in the offices of American Consular officers, who are in position to supply all other essential information about the Panama Canal.

The Panama Canal, acting through its affiliate, the Panama Railroad Company, is the only organization selling coal to ships at the Canal. Its quotations, accordingly, are the lowest prices and the only prices unless it should happen that contractors are quoting for sales at the Canal, notwithstanding that all deliveries are made through the Canal plants at the published tariff rates.

The following is a summary of the present prices on coal:

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered

from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa. For delivering lump coal for galley use, in sacks, \$12 additional per ton, but if vessel furnishes sacks, \$5 per ton additional.

*For coal in large quantities as specified below, taken from alongside coaling plants:*

(a) To vessels taking 1,200 tons or over;

(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

In case of change of prices, the new rates are published in the Tariff and in THE PANAMA CANAL RECORD, and as far as possible advance notice is given to the steamship agents on the Isthmus and to the press.

### Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.

### Official Circulars.

#### Act of Congress.—Injury Compensation.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., July 5, 1922.

CIRCULAR NO. 600-84:

The Act of Congress quoted below is published for the information of all concerned.

JAY J. MORROW,  
Governor.

AN ACT to amend an Act entitled "An Act to provide compensation for employees of the United States suffering injuries while in the performance of their duties, and for other purposes," approved September 7, 1916.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the Act entitled "An Act to provide compensation for employees of the United States suffering injuries while in the per-

formance of their duties, and for other purposes," approved September 7, 1916,<sup>1</sup> be amended as follows:

"SEC. 20. That all original claims for compensation for disability shall be made within sixty days after the injury. All original claims for compensation for death shall be made within one year after the death. For any reasonable cause shown the commission may allow original claims for compensation for disability to be made at any time within one year. If the disability or death was the result of an injury sustained during the period of the Great War, and arising out of conditions due to the war, the commission may for any reasonable cause shown allow original claims of civilian employees of the Expeditionary Forces of the United States serving outside of the territory of the United States to be made at any time within one year after the passage of this Act."

Approved, June 13, 1922.

<sup>1</sup>Published as Panama Canal Circular No. 600-27.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal Record, Balboa Heights, Canal Zone, or

The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office at Cristobal, C. Z., under the Act of March 3, 1879.

*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., July 19, 1922.

No. 49.

## Roland Line "Alda" with Heavy Loading.

In an item, "Heavy Loading of Three Steamers," in THE PANAMA CANAL RECORD of May 17, were cited the cases of the *Willhilo*, the *Sheaf Mead*, and the *Hague Maru*. The tonnages of cargo which they declared at time of transit through the Canal were 2.82, 2.23, and 2.38 times, respectively, the registered net tonnages of the ships.

The German steamer *Alda*, of the Roland Line, arriving at Balboa July 15 from Coronel, via Talcahuano and wayports, on the way to Hamburg, reported a cargo of 5,904 tons. The *Alda* is of 2,588 net tons, registry measurement; the ratio of tons of cargo to net tons in this case was 2.28. The Panama Canal net tonnage of the *Alda* is 3,392 tons.

## Lower Passenger Rates on Pacific Steam Navigation Vessels to Europe.

The Pacific Steam Navigation Company advises of reductions in its passenger rates between the Isthmus and ports in England, France, and Spain, effective with the outward voyage of the *Oriana*, due at Cristobal on July 27. The base fares between Cristobal and England, France, and Spain are as follows:

First class, one way, £48; round trip, £86; second class, one way, £27; round trip, £49; intermediate, one way, £20; third class, one way, £15.

Fares are quoted in sterling, but United States currency is accepted at the current rate of exchange.

## Coal.

THE PANAMA CANAL, DEPT. OF OPERATION AND MAINTENANCE,

BALBOA HEIGHTS, C. Z., July 18, 1922.

### MEMORANDUM TO STEAMSHIP AGENTS:

Information has been received that the coal situation at Hampton Roads is becoming serious, contractors being unable to furnish cargoes. For this reason the steamship *Cristobal* has been temporarily laid up as she can not obtain a cargo of coal for the Isthmus.

Your attention is invited to the fact that The Panama Canal has plenty of coal to answer all demands which may be made for this commodity and it is believed that your principals, under the circumstances, should be so informed.

E. P. JESSOP,  
Marine Superintendent.

## Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., July 13, 1922.

Steamship *Howick Hall* reports passing a floating tree 23 feet long and 2½ feet in diameter, at 6.30 p. m., G. M. T., July 12, in Latitude 7° 41' North, Longitude 79° 48' West. This position is east of Cape Mala, R. P.

JAY J. MORROW,  
Governor.



## Origin and Destination of Cargo—Pacific to Atlantic, June, 1922.\*

| From—                              | NORTH AMERICA.             |                            |             |                          |              |                    |                       | EUROPE. |          |          |        |                       |        |           |                |                                 |        | Grand totals. | Percent of total cargo. |        |     |
|------------------------------------|----------------------------|----------------------------|-------------|--------------------------|--------------|--------------------|-----------------------|---------|----------|----------|--------|-----------------------|--------|-----------|----------------|---------------------------------|--------|---------------|-------------------------|--------|-----|
|                                    | UNITED STATES.             |                            |             |                          |              | Cristobal, C. Z. † | Total, North America. | EUROPE. |          |          |        |                       |        |           |                |                                 |        |               |                         |        |     |
|                                    | North At-<br>lantic ports. | South At-<br>lantic ports. | Gulf ports. | Total, United<br>States. | West Indies. |                    |                       | France. | Germany. | Holland. | Italy. | Norway and<br>Sweden. | Spain. | Europe. ‡ | Total, Europe. | East coast of<br>South America. |        |               |                         |        |     |
| SOUTH AMERICA:                     |                            |                            |             |                          |              |                    |                       |         |          |          |        |                       |        |           |                |                                 |        |               |                         |        |     |
| Chile.....                         | 32,860                     | 7,300                      |             | 40,160                   |              | 32                 | 40,192                | 1,762   | 7,236    |          | 965    | 1,786                 | 508    |           |                |                                 | 3,674  | 15,931        | 56,123                  | 14.3   |     |
| Peru.....                          | 14,242                     |                            |             | 14,242                   |              | 4,096              | 18,338                |         | 9,127    |          |        | 8                     |        | 64        |                |                                 | 167    | 9,366         | 27,704                  | 7.1    |     |
| Colombia.....                      | 617                        |                            |             | 617                      |              | 2,740              | 3,358                 |         |          |          |        |                       |        |           |                |                                 |        | 12            | 3,369                   | 0.9    |     |
| Ecuador.....                       | 1,357                      |                            |             | 1,357                    |              | 1,631              | 2,988                 |         |          |          | 604    | 241                   |        | 330       |                |                                 |        | 1,175         | 4,163                   | 1.1    |     |
| West coast of South America †      | 2,438                      |                            |             | 2,438                    |              | 947                | 3,385                 | 14      | 2,289    | 148      |        | 1,623                 | 16     | 6         | 65             |                                 | 1,669  | 5,850         | 9,215                   | 2.3    |     |
| Totals.....                        | 51,514                     | 7,300                      |             | 58,814                   |              | 9,446              | 68,260                | 1,776   | 18,652   | 148      | 1,569  | 3,658                 | 524    | 400       | 65             |                                 | 5,510  | 32,302        | 121,000,574             | 25.7   |     |
| NORTH AMERICA:                     |                            |                            |             |                          |              |                    |                       |         |          |          |        |                       |        |           |                |                                 |        |               |                         |        |     |
| West coast of United States.....   | 118,962                    | 3,495                      | 4,136       | 126,593                  | 2,664        | 807                | 130,064               | 35      | 48,671   | 812      | 7,520  | 5,811                 | 1,414  |           |                | 106                             | 7,012  | 71,381        | 915,202,360             | 51.8   |     |
| West coast of Canada.....          | 4,862                      | 1,500                      |             | 6,362                    |              |                    | 6,362                 | 10,212  | 3,287    |          | 1,336  |                       |        |           |                |                                 |        | 14,835        | 21,197                  | 5.4    |     |
| West coast of Central America..... | 2,150                      |                            |             | 2,150                    | 40           | 3,150              | 5,340                 |         | 2        |          | 82     | 2,129                 |        |           |                |                                 |        | 2,213         | 7,553                   | 1.9    |     |
| West coast of North America †      | 5,747                      | 4,008                      |             | 9,755                    |              | 966                | 10,721                |         | 12,590   |          | 910    |                       |        |           |                |                                 |        | 5,320         | 18,830                  | 29,541 | 7.6 |
| Totals.....                        | 131,721                    | 9,003                      | 4,136       | 144,860                  | 2,704        | 4,923              | 152,487               | 10,247  | 64,550   | 812      | 9,848  | 7,940                 | 1,414  |           |                | 106                             | 12,332 | 107,249       | 915,260,651             | 66.7   |     |
| ASIA:                              |                            |                            |             |                          |              |                    |                       |         |          |          |        |                       |        |           |                |                                 |        |               |                         |        |     |
| China.....                         | 6,887                      |                            |             | 6,887                    |              | 202                | 7,089                 |         |          |          |        |                       |        |           |                |                                 |        |               | 7,089                   | 1.8    |     |
| Japan.....                         | 2,966                      |                            |             | 2,966                    |              |                    | 2,966                 |         |          |          |        |                       |        |           |                |                                 |        |               | 2,966                   | 0.7    |     |
| Philippines.....                   | 3,920                      |                            |             | 3,920                    |              |                    | 3,920                 |         |          |          |        |                       |        |           |                |                                 |        |               | 3,920                   | 1.0    |     |
| Malay Peninsula.....               | 1,771                      |                            |             | 1,771                    |              |                    | 1,771                 |         |          |          |        |                       |        |           |                |                                 |        |               | 1,771                   | 0.5    |     |
| Far East †                         | 4,190                      |                            |             | 4,190                    |              |                    | 4,190                 |         |          |          |        |                       |        |           |                |                                 |        |               | 4,190                   | 1.1    |     |
| Totals.....                        | 19,734                     |                            |             | 19,734                   |              | 202                | 19,936                |         |          |          |        |                       |        |           |                |                                 |        |               | 19,936                  | 5.1    |     |
| AUSTRALASIA:                       |                            |                            |             |                          |              |                    |                       |         |          |          |        |                       |        |           |                |                                 |        |               |                         |        |     |
| New Zealand.....                   | 1,182                      |                            |             | 1,182                    |              |                    | 1,182                 |         |          |          |        |                       |        |           |                |                                 |        |               |                         | 1,182  | 0.3 |
| Australasia †                      | 1,694                      |                            |             | 1,694                    |              |                    | 1,694                 |         |          |          |        |                       |        |           |                |                                 |        |               | 7,064                   | 8,758  | 2.2 |
| Totals.....                        | 2,876                      |                            |             | 2,876                    |              |                    | 2,876                 |         |          |          |        |                       |        |           |                |                                 |        |               | 7,064                   | 9,940  | 2.5 |
| Grand totals.....                  | 205,845                    | 16,303                     | 4,136       | 226,284                  | 2,704        | 14,571             | 243,559               | 12,023  | 90,296   | 960      | 11,417 | 11,598                | 1,938  | 400       | 65             | 106                             | 17,842 | 146,615       | 927,391,101             | 100.0  |     |
| Per cent of total cargo:           |                            |                            |             |                          |              |                    |                       |         |          |          |        |                       |        |           |                |                                 |        |               |                         |        |     |
| June, 1922.....                    | 52.6                       | 4.2                        | 1.0         | 57.8                     | 0.8          | 3.7                | 62.3                  | 3.1     | 23.1     | 0.2      | 2.9    | 3.0                   | 0.5    | 0.1       |                |                                 | 4.6    | 37.5          | 0.2                     | 100.0  |     |
| May, 1922.....                     | 45.3                       | 3.6                        | 1.8         | 50.7                     | 0.6          | 2.7                | 54.2                  | 0.4     | 28.1     | 0.3      | 0.3    | 5.1                   | 1.3    | 2.3       |                |                                 | 8.1    | 45.6          | 0.1                     |        |     |
| June, 1921.....                    | 29.1                       | 11.4                       | 3.6         | 44.1                     | 1.7          | 4.1                | 49.9                  | 0.9     | 30.1     | 0.6      | 0.4    | 4.2                   | 0.4    | 5.2       | 1.1            | 0.1                             | 6.9    | 49.9          | 0.2                     |        |     |

\* Figures represent tons of 2,240 pounds.

† Includes both local and transfer cargo.

‡ General cargo not routed so as to allow segregation among various ports.



## Origin and Destination of Cargo—Atlantic to Pacific, June, 1922.\*

| From—                         | SOUTH AMERICA. |           |          |        |                                           | NORTH AMERICA.       |                              |               |                       |                                | FAR EAST.             |                                           |                       |        |        | AUSTRALASIA. |                        |                  |              | Grand totals. | Per cent of total cargo. |            |                           |                     |         |
|-------------------------------|----------------|-----------|----------|--------|-------------------------------------------|----------------------|------------------------------|---------------|-----------------------|--------------------------------|-----------------------|-------------------------------------------|-----------------------|--------|--------|--------------|------------------------|------------------|--------------|---------------|--------------------------|------------|---------------------------|---------------------|---------|
|                               | Chile.         | Colombia. | Ecuador. | Peru.  | West coast of South America. <sup>2</sup> | Total South America. | West coast of United States. | Balboa, C. Z. | West coast of Canada. | West coast of Central America. | West coast of Mexico. | West coast of North America. <sup>2</sup> | Total, North America. | China. | Japan. | Philippines. | Far East. <sup>2</sup> | Total, Far East. | New Zealand. |               |                          | Australia. | Australasia. <sup>2</sup> | Total, Australasia. | Hawaii. |
| <b>NORTH AMERICA:</b>         |                |           |          |        |                                           |                      |                              |               |                       |                                |                       |                                           |                       |        |        |              |                        |                  |              |               |                          |            |                           |                     |         |
| United States—                |                |           |          |        |                                           |                      |                              |               |                       |                                |                       |                                           |                       |        |        |              |                        |                  |              |               |                          |            |                           |                     |         |
| N. Atlantic ports             | 1,290          | 1,205     | 1,113    | 1,666  | 15,068                                    | 20,342               | 134,357                      | 1             | 155                   | 229                            | 40                    | 5,500                                     | 134,742               | 13,263 | 43,602 | 16           | 26,797                 | 83,678           | 488          | 19,386        | 8,421                    | 28,295     | 8,100                     | 275,157             | 46.9    |
| S. Atlantic ports.            |                |           |          | 2,400  | 5,487                                     | 7,887                | 3,322                        |               |                       |                                |                       |                                           | 3,562                 | 451    | 550    |              | 2,980                  | 3,981            |              |               |                          |            |                           | 15,430              | 2.6     |
| Gulf ports.                   |                |           |          | 5,678  | 2,168                                     | 7,846                | 34,862                       | 6,362         |                       |                                |                       |                                           | 46,724                | 24,986 | 16,513 |              | 16,749                 | 58,248           |              |               |                          |            |                           | 121,700             | 20.7    |
| <b>Totals, United States.</b> | 1,290          | 1,205     | 1,113    | 9,744  | 22,723                                    | 36,075               | 172,741                      | 6,363         | 155                   | 229                            | 40                    | 5,500                                     | 185,028               | 38,700 | 60,665 | 16           | 46,526                 | 145,907          | 488          | 28,268        | 8,421                    | 37,177     | 8,100                     | 412,287             | 70.2    |
| <b>Central America.</b>       |                |           |          |        |                                           |                      |                              |               |                       |                                |                       |                                           |                       |        |        |              |                        |                  |              |               |                          |            |                           |                     |         |
| Cristobal, C. Z.              | 37             | 523       | 42       | 106    | 2,435                                     | 3,143                | 2,204                        | 9,600         | 1,497                 |                                |                       | 172                                       | 3,933                 |        |        |              |                        |                  |              |               |                          |            |                           | 7,076               | 1.2     |
| E. coast, Mexico.             | 29,888         |           |          |        | 29,888                                    |                      |                              |               |                       |                                |                       | 3,000                                     | 12,600                |        |        |              |                        |                  |              |               |                          |            |                           | 42,488              | 7.3     |
| E. coast, Canada.             |                |           |          |        |                                           |                      |                              |               |                       |                                |                       |                                           | 7,338                 |        |        |              |                        |                  |              |               |                          |            |                           | 2,500               | 0.5     |
| West Indies.                  | 200            |           |          |        |                                           | 200                  |                              |               | 7,338                 |                                |                       |                                           | 7,338                 |        |        |              |                        |                  |              |               |                          |            |                           | 7,538               | 1.3     |
| <b>Totals, North America.</b> | 31,415         | 1,728     | 1,155    | 9,850  | 25,158                                    | 69,306               | 175,005                      | 15,963        | 7,338                 | 1,652                          | 3,269                 | 5,672                                     | 208,899               | 38,700 | 60,665 | 16           | 46,526                 | 145,907          | 488          | 28,268        | 10,921                   | 39,077     | 8,100                     | 471,889             | 80.5    |
| <b>EUROPE:</b>                |                |           |          |        |                                           |                      |                              |               |                       |                                |                       |                                           |                       |        |        |              |                        |                  |              |               |                          |            |                           |                     |         |
| Belgium.                      | 779            |           | 54       | 238    |                                           | 1,071                | 3,899                        |               | 66                    |                                | 60                    | 372                                       | 4,397                 |        |        |              |                        |                  |              |               |                          |            |                           | 5,468               | 0.9     |
| British Isles.                | 11,633         |           | 300      | 10,878 | 2,295                                     | 25,106               | 14,362                       |               | 8,433                 |                                |                       | 129                                       | 22,795                |        |        |              |                        |                  |              |               |                          |            |                           | 77,258              | 13.2    |
| France.                       | 295            |           | 23       | 46     | 215                                       | 579                  | 31                           |               |                       |                                |                       |                                           | 160                   |        |        |              |                        |                  |              |               |                          |            |                           | 739                 | 0.1     |
| Germany.                      | 263            |           | 26       | 20     |                                           | 309                  |                              |               | 12                    |                                |                       |                                           | 12                    |        |        |              |                        |                  |              |               |                          |            |                           | 321                 | 0.1     |
| Holland.                      | 1,000          |           |          |        |                                           | 1,000                | 88                           |               |                       |                                |                       |                                           | 88                    |        |        |              |                        |                  |              |               |                          |            |                           | 1,088               | 0.2     |
| Europe. <sup>2</sup>          | 503            |           |          |        | 19,138                                    | 19,641               | 3,602                        |               |                       |                                |                       | 480                                       | 4,082                 |        |        |              |                        |                  |              |               |                          |            |                           | 23,723              | 4.0     |
| <b>Totals, Europe.</b>        | 14,473         |           | 403      | 11,182 | 21,648                                    | 47,706               | 21,982                       |               | 8,511                 |                                | 60                    | 981                                       | 31,534                |        |        |              |                        |                  |              |               |                          |            |                           | 108,597             | 18.5    |
| <b>E. COAST S. AMERICA.</b>   |                |           |          |        |                                           |                      |                              |               |                       |                                |                       |                                           |                       |        |        |              |                        |                  |              |               |                          |            |                           |                     |         |
| Grand totals.                 | 45,888         | 2,200     | 1,558    | 21,032 | 46,806                                    | 117,484              | 202,362                      | 15,963        | 15,849                | 1,652                          | 3,329                 | 6,653                                     | 245,808               | 38,700 | 60,709 | 16           | 46,526                 | 145,951          | 22,594       | 28,268        | 18,172                   | 69,033     | 8,100                     | 586,377             | 100.0   |
| <b>Per cent of total</b>      |                |           |          |        |                                           |                      |                              |               |                       |                                |                       |                                           |                       |        |        |              |                        |                  |              |               |                          |            |                           |                     |         |
| June, 1922.                   | 7.8            | 0.4       | 0.2      | 3.6    | 8.0                                       | 20.0                 | 34.5                         | 2.7           | 2.7                   | 0.3                            | 0.6                   | 1.1                                       | 41.9                  | 6.6    | 10.4   |              | 7.9                    | 24.9             | 3.9          | 4.8           | 3.1                      | 11.8       | 1.4                       | 100.0               |         |
| May, 1922.                    | 9.8            | 0.2       | 0.1      | 1.2    | 5.7                                       | 17.0                 | 33.7                         |               | 1.5                   | 1.0                            | 0.2                   | 0.1                                       | 36.5                  | 11.1   | 11.2   | 1.5          | 16.1                   | 39.9             | 0.6          | 1.2           | 4.8                      | 6.6        |                           |                     |         |
| June, 1921.                   | 11.7           | 0.4       | 0.1      | 2.0    | 5.5                                       | 19.7                 | 30.3                         | 2.0           | 8.3                   | 2.0                            | 1.8                   |                                           | 44.4                  | 8.1    | 10.6   | 0.2          | 6.4                    | 25.3             | 1.6          | 3.9           | 5.1                      | 10.6       |                           |                     |         |

\* Figures represent tons of 2,240 pounds.

\* General cargo not routed so as to allow segregation among various ports.

\* Includes both local and transfer cargo.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, July 15, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.              | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality | Line.                          | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.             |       | Panama Canal tonnage. |       |
|--------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|-------------|--------------------------------|---------|-------|-------------------|---------------|----------------|--------------------|-------|-----------------------|-------|
|                    | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |             |                                |         |       |                   |               |                | Nature.            | Tons. | Gross.                | Net.  |
| Acapulco.          | 30               | 17.43 | 9              | 6.11  | 9                  | 13.19 | 9                | 15.55 | British.    | Pacific Steam Navigation Co.   | 215.7   | 33.5  | 13.7              | Cri. total.   | Champerico.    | General.           | 328   | 1,273                 | 706   |
| Bessemer City.     | 8                | 16.51 | 9              | 7.15  | 9                  | 15.39 | 9                | 15.39 | American.   | U. S. Steel Products Co.       | 434.0   | 56.0  | 26.6              | Baltimore.    | Honolulu.      | General.           | 8,249 | 6,611                 | 5,450 |
| Nikoria.           | 8                | 20.15 | 9              | 8.05  | 9                  | 16.58 | 9                | 16.58 | German.     | Kosmos Line.                   | 410.9   | 50.6  | 24.0              | Hamburg.      | Vancouver.     | General.           | 2,973 | 7,032                 | 4,794 |
| Sandon Hall.       | 8                | 12.00 | 9              | 9.47  | 9                  | 16.36 | 9                | 17.42 | British.    | Ellerman Lines, Ltd.           | 406.0   | 52.0  | 19.7              | Cape Town.    | Guayaquil.     | Ballast.           | 2,000 | 6,691                 | 4,896 |
| Lake Fisher.       | 8                | 15.00 | 9              | 10.19 | 9                  | 17.15 | 9                | 20.00 | American.   | N. O. & A. Line (S. B.).       | 253.0   | 40.0  | 19.8              | New Orleans.  | Guayaquil.     | General.           | 2,000 | 2,939                 | 2,017 |
| Tacoma Maru.       | 9                | 11.10 | 9              | 11.40 | 9                  | 18.55 | 9                | 20.00 | Japanese.   | Oaka Shosen Kaisha.            | 410.0   | 51.0  | 27.0              | Buenos Aires. | Kobe.          | General.           | 3,287 | 6,116                 | 4,241 |
| Baron Cawdor.      | 9                | 13.23 | 10             | 6.28  | 10                 | 13.50 | 10               | 14.50 | British.    | Hogarth Shipping Co.           | 422.5   | 50.2  | 26.6              | Port Arthur.  | Yokohama.      | Case oil, asphalt. | 7,283 | 6,760                 | 4,849 |
| Stanley.           | 10               | 1.40  | 10             | 7.32  | 10                 | 15.15 | 10               | 21.55 | American.   | Archer Line.                   | 401.7   | 51.5  | 27.2              | New York.     | Yokohama.      | General.           | 7,953 | 6,933                 | 5,137 |
| Steel Voyager.     | 10               | 12.51 | 10             | 10.40 | 10                 | 18.18 | 10               | 19.20 | American.   | U. S. Steel Products Co.       | 305.5   | 50.0  | 27.5              | Boston.       | Saddle.        | General.           | 8,300 | 6,934                 | 4,415 |
| Eastern Seaboard.  | 9                | 7.35  | 10             | 11.40 | 10                 | 19.14 | 10               | 20.22 | American.   | W. C. & American Line (S. B.). | 384.0   | 51.1  | 26.8              | New York.     | Molokai.       | General.           | 6,500 | 6,199                 | 4,513 |
| Camilla Gilbert.   | 10               | 5.46  | 10             | 13.00 | 10                 | 20.33 | 10               | 21.42 | Norwegian.  | W. C. Gilbert.                 | 253.4   | 43.7  | 24.0              | Baltimore.    | San Francisco. | Fertilizer, steel. | 2,220 | 2,751                 | 1,699 |
| Govern.            | 10               | 21.04 | 11             | 6.30  | 11                 | 13.09 | 11               | 15.20 | American.   | Fred J. Gauntlett.             | 379.6   | 44.3  | 21.6              | Ch. total.    | Valparaiso.    | General.           | 415   | 4,535                 | 3,008 |
| Ayres.             | 8                | 14.38 | 11             | 11.50 | 11                 | 18.08 | 11               | 19.26 | Chilean.    | Chilean Line.                  | 360.2   | 51.6  | 24.6              | New York.     | Tal. atunao.   | General.           | 3,369 | 5,691                 | 3,975 |
| Santa Luisa.       | 11               | 19.00 | 12             | 6.17  | 12                 | 14.06 | 12               | 17.45 | American.   | Grace Line.                    | 308.6   | 40.0  | 20.0              | New York.     | Salaverry.     | General.           | 2,234 | 2,832                 | 1,813 |
| Santa Fecla.       | 12               | 12.45 | 12             | 13.15 | 12                 | 19.06 | 12               | 20.21 | British.    | Andrew Weir & Co.              | 400.0   | 52.0  | 21.11             | New York.     | Manila.        | Case oil, general. | 7,189 | 6,192                 | 4,550 |
| Tymore.            | 12               | 12.45 | 12             | 13.15 | 12                 | 19.06 | 12               | 20.21 | American.   | American-tahitian Line.        | 470.1   | 57.2  | 25.4              | Philadelphia. | Portland.      | General.           | 4,037 | 9,158                 | 6,970 |
| Arizona.           | 12               | 14.05 | 13             | 6.20  | 13                 | 13.53 | 13               | 15.15 | American.   | Pacific Steam Navigation Co.   | 483.5   | 58.2  | 21.2              | Liverpool.    | Valparaiso.    | General.           | 1,383 | 9,436                 | 6,501 |
| Orita.             | 12               | 17.26 | 13             | 7.40  | 13                 | 14.37 | 13               | 16.48 | British.    | Pacific Steam Navigation Co.   | 446.0   | 55.8  | 24.5              | New York.     | Los Angeles.   | General.           | 6,130 | 8,508                 | 6,179 |
| Karina Luckenbach. | 13               | 6.03  | 13             | 8.12  | 13                 | 15.37 | 13               | 16.25 | American.   | Luckenbach Line.               | 446.0   | 55.8  | 24.5              | New York.     | Los Angeles.   | General.           | 6,130 | 8,508                 | 6,179 |
| Dacre Castle.      | 13               | 12.53 | 13             | 9.25  | 13                 | 17.24 | 13               | 18.42 | British.    | Luckenbach Shipping Co.        | 400.0   | 52.0  | 26.0              | New York.     | Cebu.          | Steel, general.    | 7,177 | 5,816                 | 4,112 |
| Plum Branch.       | 13               | 9.22  | 13             | 10.25 | 13                 | 18.16 | 13               | 19.55 | British.    | F. and W. Ritsen.              | 400.0   | 52.0  | 22.0              | Liverpool.    | Valparaiso.    | General.           | 3,714 | 5,701                 | 3,881 |
| Baron Polworth.    | 13               | 18.21 | 14             | 6.20  | 14                 | 14.10 | 14               | 15.25 | British.    | Hogarth Shipping Co.           | 400.2   | 52.0  | 24.0              | Cardenas.     | Vancouver.     | Sugar.             | 6,300 | 5,497                 | 4,105 |
| S. C. T. Dodd.     | 13               | 21.16 | 14             | 7.27  | 14                 | 15.02 | 14               | 16.15 | American.   | Standard Oil Co.               | 425.0   | 57.2  | 22.0              | Philadelphia. | San Francisco. | Ballast.           | 7,481 | 4,975                 | 3,491 |
| Huanchaco.         | 13               | 11.05 | 14             | 11.08 | 14                 | 18.14 | 14               | 20.18 | British.    | Pacific Steam Navigation Co.   | 390.6   | 50.0  | 24.11             | Hull.         | Valparaiso.    | General.           | 2,753 | 5,905                 | 4,301 |
| Professor.         | 13               | 19.40 | 15             | 6.18  | 15                 | 13.47 | 15               | 15.50 | British.    | Harrison Line.                 | 350.2   | 46.0  | 14.7              | Liverpool.    | San Francisco. | Ballast.           | 4,061 | 2,845                 | 2,345 |
| Athenic.           | 15               | 6.27  | 15             | 7.30  | 15                 | 15.00 | 15               | 8.20  | British.    | White Star Line.               | 500.0   | 63.0  | 28.0              | London.       | Wellington.    | General.           | 9,000 | 12,806                | 9,571 |
| Kalfar.            | 14               | 21.20 | 15             | 8.20  | 15                 | 15.50 | 15               | 19.38 | Norwegian.  | D. Steen.                      | 414.5   | 53.7  | 23.4              | Philadelphia. | Shanghai.      | Kerosene.          | 7,000 | 6,615                 | 4,532 |
| Hattie Luckenbach. | 15               | 4.13  | 15             | 9.40  | 15                 | 15.37 | 15               | 17.48 | American.   | Luckenbach Line.               | 331.5   | 47.0  | 27.0              | Mobile.       | San Francisco. | General.           | 5,500 | 4,808                 | 3,768 |
| Birmingham.        | 15               | 9.15  | 15             | 9.40  | 15                 | 17.25 | 15               | 21.50 | American.   | U. S. Steel Products Co.       | 395.5   | 55.0  | 28.0              | New York.     | Seattle.       | Steel, general.    | 7,826 | 6,841                 | 4,686 |
| City of Bristol.   | 15               | 6.21  | 15             | 10.32 | 15                 | 18.14 | 15               | 20.15 | British.    | Ellerman Hall Line.            | 451.10  | 56.6  | 27.0              | New York.     | Yokohama.      | General.           | 8,435 | 8,063                 | 6,188 |
| Henry S. Grove.    | 15               | 4.26  | 15             | 11.14 | 15                 | 19.32 | 15               | 20.02 | American.   | All. Gulf & Pac. Steamship Co. | 404.0   | 54.0  | 26.0              | Savannah.     | Los Angeles.   | General.           | 7,500 | 6,755                 | 4,688 |
| Whakana.           | 15               | 8.15  | 15             | 11.55 | 15                 | 20.02 | 15               | 21.35 | American.   | New Zealand Shipping Co.       | 420.0   | 54.0  | 28.0              | London.       | Auckland.      | General.           | 5,600 | 7,131                 | 5,324 |

\* Coffee, canary seed, steel sheet, and rails.

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| THROUGH THE CANAL |    |    |    |    |    |    |    |    |    |          |       |         |          |                          |         |           |                |             |               |         |        |        |       |
|-------------------|----|----|----|----|----|----|----|----|----|----------|-------|---------|----------|--------------------------|---------|-----------|----------------|-------------|---------------|---------|--------|--------|-------|
| Ship              | 8  | 14 | 10 | 9  | 6  | 56 | 9  | 14 | 10 | 9        | 17    | 45      | American | 424.2                    | 56.2    | 25.0      | Seattle        | Boston      | General       | 7,600   | 7,611  | 5,454  |       |
| Steel Navigator   | 10 | 5  | 00 | 10 | 8  | 35 | 9  | 10 | 16 | 13       | 11    | 18      | 30       | Japanese                 | 385.0   | 51.0      | 26.0           | Vancouver   | General       | 7,700   | 6,251  | 4,726  |       |
| Pacific Maru      | 10 | 7  | 00 | 10 | 9  | 08 | 10 | 16 | 33 | American | 386.6 | 55.0    | 23.4     | Seattle                  | General | 4,837     | 5,707          | 3,643       | Colon         | General | 4,937  | 5,707  | 3,643 |
| Nebraska          | 10 | 7  | 00 | 10 | 10 | 56 | 10 | 18 | 05 | 11       | 15    | 25      | American | 380.3                    | 53.1    | 20.0      | Vancouver      | New Orleans | General       | 4,800   | 5,657  | 4,247  |       |
| Red Hook          | 10 | 7  | 00 | 10 | 10 | 56 | 10 | 18 | 05 | 11       | 15    | 25      | American | 397.0                    | 53.1    | 20.0      | Talcahuano     | Panama      | General       | 6,735   | 5,849  | 4,081  |       |
| Saint Jean        | 10 | 10 | 30 | 10 | 12 | 14 | 10 | 19 | 26 | 11       | 11    | 49      | French   | 436.0                    | 57.2    | 27.6      | Seattle        | New York    | General       | 7,206   | 8,543  | 6,427  |       |
| Edward Luckenbach | 10 | 12 | 05 | 11 | 7  | 00 | 11 | 15 | 15 | 11       | 20    | 55      | American | 385.0                    | 51.0    | 27.0      | Portland       | Hampton Rds | General       | 7,449   | 5,926  | 4,397  |       |
| Sweden Maru       | 10 | 17 | 25 | 11 | 7  | 54 | 11 | 15 | 38 | 11       | 15    | 38      | Japanese | 434.3                    | 57.7    | 20.6      | Hilo           | New York    | General       | 4,246   | 7,982  | 5,911  |       |
| Hanover           | 11 | 10 | 45 | 11 | 16 | 54 | 12 | 16 | 56 | 12       | 3     | 30      | American | 550.1                    | 72.0    | 32.0      | Cruz Grande    | New York    | General       | 19,400  | 15,476 | 11,102 |       |
| Etchore           | 11 | 14 | 50 | 11 | 16 | 54 | 12 | 16 | 56 | 12       | 16    | 56      | American | 380.6                    | 48.7    | 22.6      | San Francisco  | New York    | General       | 2,176   | 5,926  | 4,178  |       |
| Enador            | 11 | 4  | 10 | 12 | 6  | 53 | 12 | 14 | 13 | 12       | 10    | 7       | American | 388.8                    | 44.6    | 22.5      | Vancouver      | New York    | General       | 2,800   | 3,450  | 2,404  |       |
| Stanley Dollar    | 11 | 18 | 00 | 12 | 7  | 49 | 12 | 15 | 35 | 13       | 1     | 53      | American | 410.5                    | 56.0    | 26.0      | Portland       | Baltimore   | General       | 8,500   | 8,199  | 6,216  |       |
| Liberator         | 12 | 3  | 00 | 12 | 8  | 21 | 12 | 17 | 00 | 12       | 17    | 40      | American | 400.8                    | 60.3    | 22.0      | Tocopilla      | Tampoco     | Ballast       | 6,748   | 5,679  | 4,388  |       |
| Santa Maria       | 12 | 16 | 40 | 12 | 13 | 15 | 12 | 20 | 04 | British  | 400.8 | 60.3    | 22.0     | U. S. Steel Products Co. | 51.5    | 22.0      | Vancouver      | Liverpool   | General       | 6,086   | 6,095  | 4,388  |       |
| Howick Hall       | 13 | 2  | 00 | 13 | 7  | 53 | 13 | 15 | 13 | 17       | 00    | British | 216.0    | 35.1                     | 11.7    | Guayaquil | Cristobal      | General     | 248           | 1,357   | 884    |        |       |
| Manavi            | 13 | 7  | 30 | 13 | 9  | 20 | 13 | 16 | 17 | British  | 335.4 | 45.3    | 18.6     | Guayaquil                | 51.5    | 22.0      | Chile and Peru | New York    | General       | 747     | 4,503  | 2,764  |       |
| Gen. O. H.        | 12 | 21 | 00 | 13 | 13 | 37 | 13 | 20 | 32 | 15       | 9     | 53      | American | 345.4                    | 48.0    | 21.7      | Guayaquil      | Amsterdam   | General       | 3,780   | 4,321  | 2,120  |       |
| Ernst             | 13 | 9  | 00 | 13 | 14 | 50 | 13 | 22 | 05 | 15       | 2     | 00      | Dutch    | 300.0                    | 54.0    | 15.2      | Bremerton      | Hampton Rds | Navy cargo    | 325     | 7,043  | 5,041  |       |
| Jason             | 12 | 6  | 47 | 13 | 6  | 47 | 14 | 13 | 55 | 14       | 17    | 10      | American | 409.5                    | 56.0    | 16.6      | Iquique        | Tampoco     | Ballast       | 7,044   | 7,863  | 5,882  |       |
| Capella           | 13 | 13 | 55 | 14 | 7  | 40 | 14 | 15 | 01 | 14       | 19    | 37      | American | 434.3                    | 57.7    | 22.0      | San Francisco  | New York    | General       | 1,202   | 4,965  | 2,951  |       |
| Solana            | 13 | 13 | 55 | 14 | 7  | 40 | 14 | 15 | 01 | 14       | 19    | 37      | American | 381.2                    | 46.1    | 18.0      | Callao         | Cristobal   | General       | 2,550   | 5,871  | 4,094  |       |
| Wilhelmo          | 14 | 6  | 36 | 14 | 10 | 12 | 14 | 16 | 30 | Peruvian | 400.0 | 52.0    | 18.0     | Melbourne                | 52.0    | 18.0      | New York       | New York    | General, wool | 2,550   | 5,871  | 4,094  |       |
| Urubamba          | 14 | 6  | 36 | 14 | 10 | 12 | 14 | 16 | 30 | Peruvian | 400.0 | 52.0    | 18.0     | Melbourne                | 52.0    | 18.0      | New York       | New York    | General, wool | 2,550   | 5,871  | 4,094  |       |
| Canadian          | 14 | 8  | 00 | 14 | 10 | 48 | 14 | 18 | 05 | 14       | 21    | 20      | British  | 411.5                    | 53.7    | 22.6      | San Francisco  | Mobile, Ala | General       | 3,323   | 7,314  | 5,270  |       |
| Spinner           | 14 | 12 | 30 | 14 | 13 | 09 | 14 | 19 | 28 | 14       | 19    | 28      | American | 420.0                    | 56.0    | 20.0      | Singapore      | Hamburg     | General       | 4,500   | 7,623  | 5,362  |       |
| Jacob Luckenbach  | 14 | 12 | 30 | 14 | 13 | 09 | 14 | 19 | 28 | 14       | 19    | 28      | American | 360.0                    | 51.0    | 23.3      | Coral          | New York    | General       | 5,408   | 4,791  | 3,362  |       |
| Alaska Maru       | 14 | 12 | 45 | 14 | 13 | 52 | 14 | 21 | 35 | 14       | 19    | 43      | Japanese | 365.0                    | 51.0    | 23.3      | Coral          | Hamburg     | General       | 7,500   | 5,919  | 4,400  |       |
| Aida              | 15 | 2  | 30 | 15 | 7  | 47 | 15 | 15 | 21 | 15       | 17    | 35      | Japanese | 400.0                    | 51.0    | 23.3      | Portland       | Hull        | Wheat         | 7,267   | 5,914  | 4,269  |       |
| Liverpool Maru    | 15 | 7  | 30 | 15 | 8  | 47 | 15 | 19 | 32 | 15       | 22    | 13      | Japanese | 385.0                    | 50.0    | 21.6      | Portland       | United King | Wheat         | 7,267   | 5,914  | 4,269  |       |
| Rozan Maru        | 15 | 11 | 00 | 15 | 11 | 17 | 15 | 19 | 32 | 15       | 22    | 13      | Spanish  | 385.0                    | 50.0    | 21.6      | Guaymas        | Bilbao      | Cheek peas    | 6,513   | 4,956  | 3,437  |       |

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

\* For orders.

| *ARRIVALS. |             |                  |       | *DEPARTURES. |                   |                                 |                       |
|------------|-------------|------------------|-------|--------------|-------------------|---------------------------------|-----------------------|
| Date.      | Vessel.     | From—            | Line. | Date.        | Vessel.           | Line.                           | For—                  |
| July 9.    | Atenas.     | United Fruit Co. | Line. | July 9.      | Oranjo Nassau     | Royal Netherlands W. I. Mail    | Puerto Colombia.      |
| July 9.    | Montevideo. | Spanish Line.    | Line. | July 9.      | Atenas            | Panama Railroad Steamship Line. | New York via Haiti.   |
| July 10.   | Heredia.    | United Fruit Co. | Line. | July 10.     | Atenas            | United Fruit Co.                | Bocas del Toro.       |
| July 11.   | Ulua.       | United Fruit Co. | Line. | July 12.     | Montevideo        | Spanish Line.                   | Batavia via wayports. |
|            |             |                  |       | July 12.     | H. M. S. Wistaria | British Government              | Kingston.             |

(Continued on page 610, column 2.)



**Notice to Mariners.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., July 13, 1922.

The Commanding Officer of the U. S. S. *Birmingham* reports that on May 31, 1922, the following buoys had been established in Corinto Harbor, Nicaragua:

A red nun buoy on the bearings: Entrance range front beacon, 77°; and Cardon Head lighthouse, 136° 30'.

A black nun buoy on the bearings: White beacon off northeast side of Cardon Island on 175°, and Cardon Head lighthouse, 245°.

A red spar on the bearings: Corinto church steeple, 28°; and Mount Dona Paula range front beacon, 118° 30'.

A red spar buoy on the bearings: Corinto church steeple, 2°; and white beacon off northeast side of Cardon Island, 257° 30'.

A black can buoy recently moored to mark the 16-foot shoal on the port hand entering was removed on the bearings: White beacon off northeast side of Cardon Island, 252°; and Cardon Head lighthouse, 290° 30'.

JAY J. MORROW,  
Governor.

**Notice to Mariners.—Menaces to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., July 17, 1922.

1. From Master of steamship *Delrosa*, July 15, 30 hours G. M. T. (probably an error in time):

Lat. 7° 49' N., Long. 79° 01' W., passed large log about 30' long, 3' in diameter, heavily coated with barnacles.

2. From Master, steamship *Coverun*, 9 a. m., July 16:

Lat. 13° 34' N., Long. 93° 04' W., passed partially submerged log about 20' long, 3' in diameter.

3. From Master, steamship *Birmingham City*, 10.30 a. m., July 16:

Lat. 7° 08' N., Long. 80° 38' W., passed large tree with many branches. Dangerous to navigation.

4. From Master, steamship *Whakatane*, July 16:

Lat. 7° 35' N., Long. 79° 46' W., passed water-logged tree previously reported July 6.

JAY J. MORROW,  
Governor.

**Notice to Mariners.—Menace to Navigation.**

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., July 18, 1922.

From Master, steamship *Whakatane*, July 16, 2.19 p. m.:

Lat. 6° 37' North, Long. 80° 38' West, passed large water-logged tree, apparent size 70 feet long, 2 feet in diameter. Very dangerous to navigation.

JAY J. MORROW,  
Governor.

**Ships at Canal Repair Shops.**

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended July 17:

Steamship *Ionic*, braze 2 copper feed water suction pipes; yacht *Almirante*, renew bowsprit, broken in locks; steamships *Imperial*, cast, machine, and install new side frame casting for anchor windlass; *Edward Luckenbach*, furnish services of diver to examine propeller; motor schooner *Laura C. Hall*, repair exhaust manifold; steamship *Santa Maria*, manufacture and install 2 ramps on each of 4 capstan heads in way of gear changing socket; alter piping to midship sanitary tanks; repair water heater in firemen's forecandle; overhaul 1 blow-down valve on after starboard boiler; relocate 2 forward davits, port and starboard; furnish air for ship's use in operating pumps; furnish steam for steaming up boilers; braze 1 copper main feed pipe; renew suction pipe to circulating system on ammonia condenser; repair 1 oil line gate valve on deck; renew bronze valve seat in starboard Weir feed water pump; manufacture and install mushroom ventilator on poop deck, starboard side; and manufacture and install 1 wooden ladder, 25 feet long, in hold; *Jephtha*, renew 6



tubes in bottom row of starboard boiler; *Californian*, furnish services of diver to examine propeller; *Mundella*, weld and machine wrench for main engine; dredge *Paraiso*, dry-dock for widening hull, so as to increase her stability equal to that of the dredge *Cascadas*.

The following vessels were at the Cristobal shops for repairs during the week ended July 17:

Steamships *Manavi*, repair windlass; face up valves and seats for Weir's pumps; fit spare pinions to port and starboard after winches; lift rudder and rebush pintles; clean and paint hull; overhaul sea valves and cocks; draw tail shaft and rebush bottom half of stern bush; renew iron plate under stern frame; repair ceiling in No. 1 lower hold; overhaul anchor chains, etc.; *Litiopa*, repair L. P. piston ring; 3 oil burner pipes, and cocks for heater pipes; *Mount Baker*, weld and rebore flywheel; bore piston wrist pin and fit new pin and bushings; *Colon*, repair deck house plating, outside of purser's office and No. 1 lifeboat; *General O. H. Ernst*, furnish flywheel for turning engine and machine same; install new rubber in No. 2 port and starboard cargo ports; U. S. mine planter *Graham*, repair H. P. piston valves and valve chambers; repair H. P. piston rings and pistons; repair L. P. valves; renew main topmast, etc.; steamships *Carrillo*, *Willhilo*, *Orita*, dredge No. 83, launch *Azimuth*, minor repairs.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Two Weeks Ending July 15, 1922.

| Name of vessel.       | Line or charterer.                  | Arrived.     | Departed.    | Cargo—           |                  |
|-----------------------|-------------------------------------|--------------|--------------|------------------|------------------|
|                       |                                     |              |              | Discharged       | Laded.           |
|                       |                                     |              |              | Tons.            | Tons.            |
| Huasco.....           | Chilean Line.....                   | .....        | July 2.....  | .....            | 422              |
| Honduras.....         | French Line.....                    | .....        | July 2.....  | .....            | 230              |
| Cuba.....             | Pacific Mail Steamship Co.....      | .....        | July 2.....  | .....            | 1,514            |
| San Benito.....       | United Fruit Co.....                | July 2.....  | July 2.....  | 60               | 63               |
| Turrialba.....        | United Fruit Co.....                | July 2.....  | July 3.....  | ( <sup>1</sup> ) | 147              |
| Adalia.....           | Hamburg-American Line.....          | July 3.....  | July 3.....  | 8                | 87               |
| Cartago.....          | United Fruit Co.....                | July 3.....  | July 6.....  | 1,494            | 1                |
| Panama.....           | Panama Railroad Steamship Line..... | July 3.....  | .....        | 1,912            | .....            |
| Salvador.....         | Pacific Steam Navigation Co.....    | .....        | July 6.....  | .....            | 430              |
| Cristobal.....        | Panama Railroad Steamship Line..... | .....        | July 6.....  | .....            | 9                |
| Ucayali.....          | Peruvian Line.....                  | July 3.....  | July 8.....  | 1,696            | 251              |
| Oranje Nassau.....    | Royal Netherlands W. I. Mail.....   | July 4.....  | July 5.....  | 328              | ( <sup>2</sup> ) |
| Osterndorf.....       | Kosmos Line.....                    | July 4.....  | July 5.....  | 430              | ( <sup>2</sup> ) |
| Pastores.....         | United Fruit Co.....                | July 4.....  | July 5.....  | 201              | 259              |
| Camden.....           | United Fruit Co.....                | July 4.....  | July 5.....  | 8,837            | ( <sup>2</sup> ) |
| Haiti.....            | French Line.....                    | July 4.....  | July 6.....  | 20               | 450              |
| San Blas.....         | United Fruit Co.....                | July 5.....  | July 6.....  | 15               | 1                |
| Turrialba.....        | United Fruit Co.....                | July 6.....  | July 6.....  | 2                | 145              |
| Almagro.....          | Pacific Steam Navigation Co.....    | July 6.....  | July 7.....  | 380              | 198              |
| Orestes.....          | Royal Netherlands W. I. Mail.....   | July 6.....  | July 7.....  | 102              | 27               |
| El Paso.....          | Southern Pacific Co.....            | July 6.....  | July 8.....  | 231              | ( <sup>2</sup> ) |
| Venezuela.....        | Pacific Mail Steamship Co.....      | July 6.....  | July 8.....  | 155              | 321              |
| John Worthington..... | Standard Oil Co.....                | July 7.....  | July 8.....  | 11,750           | ( <sup>2</sup> ) |
| Oranje Nassau.....    | Royal Netherlands W. I. Mail.....   | July 7.....  | July 8.....  | 20               | 2,234            |
| Aysen.....            | Chilean Line.....                   | July 8.....  | .....        | 147              | .....            |
| Coronado.....         | Elders & Fyffes, Ltd.....           | July 8.....  | July 8.....  | 10               | 1                |
| Panama.....           | Panama Railroad Steamship Line..... | .....        | July 9.....  | .....            | 2,073            |
| Atenas.....           | United Fruit Co.....                | July 9.....  | July 10..... | ( <sup>1</sup> ) | 52               |
| Aysen.....            | Chilean Line.....                   | .....        | July 11..... | .....            | 529              |
| Montevideo.....       | Spanish Line.....                   | July 9.....  | July 12..... | 142              | 142              |
| Saint Jean.....       | French Line.....                    | July 10..... | July 11..... | 29               | 55               |
| Heredia.....          | United Fruit Co.....                | July 10..... | July 13..... | 412              | 53               |
| Ulua.....             | United Fruit Co.....                | July 11..... | July 12..... | 270              | 174              |
| Lompoc.....           | Union Oil Co.....                   | July 11..... | July 13..... | 9,600            | ( <sup>2</sup> ) |
| Carrillo.....         | United Fruit Co.....                | July 12..... | July 13..... | 2                | 229              |
| Ecuador.....          | Pacific Mail Steamship Co.....      | July 12..... | July 13..... | 292              | 184              |
| Sixola.....           | United Fruit Co.....                | July 12..... | July 13..... | 6                | 9                |
| Atenas.....           | United Fruit Co.....                | July 13..... | July 13..... | 51               | 60               |
| Colon.....            | Panama Railroad Steamship Line..... | July 13..... | .....        | 2,857            | .....            |
| Jasen.....            | Royal Netherlands W. I. Mail.....   | .....        | July 14..... | 82               | 721              |
| Professor.....        | Harrison Line.....                  | July 13..... | July 15..... | 440              | ( <sup>2</sup> ) |
| Manavi.....           | Pacific Steam Navigation Co.....    | July 13..... | .....        | 248              | .....            |
| Huanchaco.....        | Pacific Steam Navigation Co.....    | July 13..... | July 14..... | 204              | 194              |
| Gen. O. H. Ernst..... | Panama Railroad Steamship Line..... | July 13..... | July 15..... | 739              | ( <sup>2</sup> ) |
| Litiopa.....          | Anglo-Saxon Petroleum Co.....       | July 13..... | .....        | 6,500            | .....            |
| Urubamba.....         | Peruvian Line.....                  | July 14..... | .....        | 1,254            | .....            |
| Oscar D. Bennett..... | Huasteca Petroleum Co.....          | July 14..... | .....        | 7,000            | .....            |
| Eupatoria.....        | Hamburg-American Line.....          | July 15..... | .....        | 21               | .....            |
| Conde de Churrua..... | Anglo-Saxon Petroleum Co.....       | July 15..... | .....        | 6,150            | .....            |

\* No cargo laded.

\* No cargo discharged.



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., July 26, 1922.

No. 50.

## Largest Cargo Carried Through the Canal.

A new high record for tons of cargo carried through the Canal was set by the steamer *Marore* of the Ore Steamship Corporation, when she made the transit of the Canal on July 19 with 20,000 tons of iron ore, bound from Cruz Grande, Chile, to New York.

The previous record was set by a sister ship of the *Marore*, the *Bethore*, making the transit on May 29 with 19,000 tons of ore. The *Marore* was drawing 33 feet of water at time of transit, the *Bethore* 32 feet 6 inches.

Although the *Bethore* and the *Marore* are of similar construction and differ very little, if at all, in deadweight carrying capacity, the *Bethore's* Canal tolls are \$12,020, while the *Marore's* tolls are only \$5,156.40. This is due to a difference in the tanks. In the *Marore* they are blanked off in such a way that they can only be used for salt-water ballast, and do not figure in the net tonnage. On the *Bethore*, however, the tanks are available for oil cargo, and on her voyage south this ship will commonly carry oil from Mexico, returning with ore from Chile.

## Lowest Unit Cost of Tolls Per Ton of Cargo Carried.

The passage of the *Marore* with 20,000 tons of iron ore, under payment of \$5,156.40 in tolls, sets a new low figure for the cost of tolls per ton of cargo, 25.78 cents.

A study of the cost of tolls per ton of cargo carried through the Canal on ships variously loaded was published in THE PANAMA CANAL RECORD of April 4, 1917. The lowest unit cost among 288 ships which were considered was 37 cents per ton, in the case of a shipment of 8,400 tons of nitrate on the *Alfred Nobel*, which paid \$3,093.84 in tolls.

The lowest cost per ton of iron ore, in the study mentioned above, was 52 cents.

## CANAL WORK IN JUNE.

The following is the report of the Governor to the Secretary of War, of Canal work in the month of June, 1922:

BALBOA HEIGHTS, C. Z., July 19, 1922.

*The Honorable, the Secretary of War,*  
*Washington, D. C.*

SIR: I have the honor to submit the following report of The Panama Canal for the month of June, which closes the fiscal year period ending June 30, 1922.

### CANAL TRAFFIC FOR FISCAL YEAR.

The number of ships transiting the Canal during the fiscal year ending June 30, 1922, was somewhat under that for the preceding fiscal year. The tonnage of ships through the Canal, tolls collected, and tons of cargo in transit through the Canal were also slightly under the totals for last year, as the following summary shows:



|                                            | Fiscal year<br>1922. | Calendar year<br>1921. | Fiscal year<br>1921. | Fiscal year<br>1920. |
|--------------------------------------------|----------------------|------------------------|----------------------|----------------------|
| Number of ships.....                       | 2,736                | 2,783                  | 2,892                | 2,478                |
| Net tonnage, Panama Canal measurement..... | 11,417,459           | 11,435,811             | 11,415,876           | 8,546,044            |
| Tolls.....                                 | \$11,197,832.41      | \$11,261,098.80        | \$11,276,889.91      | \$8,513,933.15       |
| Tons of cargo.....                         | 10,884,910           | 10,707,005             | 11,599,214           | 9,374,499            |

A more detailed report of traffic through the Canal during the past fiscal year will be included in my report for the fiscal year which is now being compiled.

#### CANAL TRAFFIC FOR JUNE.

The tonnage of ships transiting the Canal, together with tolls, etc., were somewhat under that for the preceding month. This was due to an unusually light traffic passing through the Canal from the Pacific to the Atlantic, the tonnage moving in this direction being the lowest of any month during the past fiscal year with the exception of January. Practically all geographical regions contributing to the Pacific to Atlantic traffic showed a decrease in tonnage from that of the preceding month, but the most marked decline was in tonnage from Australasia which contributed a total tonnage (Panama Canal measurement) of 9,982 for the month of June, as against a tonnage of 41,334 for the preceding month, and 75,400 for the month of June last year. The tonnage from the Far East also showed a decline, and in this connection it is of interest to note that the tonnage through the Canal routed to the Far East and Australasia totaled 186,357 as against a total tonnage through the Canal routed from these two regions of but 26,839 net tons.

\* Traffic through the Canal from the Atlantic to the Pacific was unusually good for June, however, and served to keep the traffic figures for the month up to the average.

With the close of the fiscal year the annual movement of grain from the west coast of the United States and Canada was just getting under way and it is anticipated that with shipments of wheat and barley, together with fruit, salmon, etc., the traffic from the Pacific to the Atlantic will show a substantial increase for the next several months.

The total number of vessels and craft of all kinds transiting the Canal during June, as compared with the preceding month and with the corresponding month of last year, was as follows:

|                                                 | June,<br>1922. | May,<br>1922. | June,<br>1921. |
|-------------------------------------------------|----------------|---------------|----------------|
| Commercial vessels.....                         | 228            | 243           | 192            |
| Noncommercial vessels.....                      | 24             | 18            | 33             |
| Launches, etc. (under 10 tons measurement)..... | 4              | 6             | 3              |
| Total vessels and craft through Canal.....      | 256            | 267           | 228            |

In addition to the foregoing, Panama Canal equipment consisting of floating cranes, barges, dredges, tugs, launches, etc., was passed through the locks in June as follows:

|                   | North-bound. | South-bound. | Total. |
|-------------------|--------------|--------------|--------|
| Gatun.....        | 21           | 28           | 49     |
| Pedro Miguel..... | 27           | 30           | 57     |
| Miraflores.....   | 26           | 30           | 56     |
| Totals.....       | 74           | 88           | 162    |

#### COMMERCIAL TRAFFIC.<sup>1</sup>

##### *Comparative Traffic Statistics.*

The following tabulations permit a ready comparison of commercial traffic through the Panama Canal during the month of June, 1922, with that of the preceding month along the lines indicated at the head of the various tables:

<sup>1</sup> Commercial traffic includes all ocean-going vessels paying tolls. Vessels in the direct service of the United States Government, including merchant vessels chartered by the Government, do not pay tolls. Shipping Board vessels in commercial traffic pay tolls. Statistics on vessels not paying tolls are shown under "noncommercial traffic."



## TONNAGE, TOLLS, AND CARGO CARRIED.

|                                           | June, 1922.  | May, 1922.     | June, 1921.  | Average month for past year. |
|-------------------------------------------|--------------|----------------|--------------|------------------------------|
| United States equivalent net tonnage..... | 773,798      | 828,683        | 613,894      | 766,801                      |
| Panama Canal net tonnage.....             | 970,713      | 1,032,816      | 761,477      | 951,455                      |
| Registered gross tonnage.....             | 1,228,038    | 1,297,553      | 960,857      | 1,196,757                    |
| Registered net tonnage.....               | 776,410      | 822,290        | 610,491      | 762,601                      |
| Tolls.....                                | \$932,290.42 | \$1,015,057.37 | \$751,964.12 | \$933,152.70                 |
| Tons of cargo.....                        | 977,478      | 1,158,507      | 694,720      | 907,076                      |

## AVERAGE TONNAGE, TOLLS, AND TONS OF CARGO CARRIED PER VESSEL.

|                                                   | June, 1922. | May, 1922. | June, 1921. |
|---------------------------------------------------|-------------|------------|-------------|
| United States equivalent net tonnage.....         | 3,394       | 3,410      | 3,197       |
| Panama Canal net tonnage.....                     | 4,257       | 4,250      | 3,965       |
| Registered gross tonnage.....                     | 5,386       | 5,340      | 5,004       |
| Registered net tonnage.....                       | 3,405       | 3,384      | 3,130       |
| Tolls.....                                        | \$4,089.99  | \$4,177.19 | \$3,703.95  |
| Tons of cargo (including vessels in ballast)..... | 4,287       | 4,356      | 3,618       |
| Tons of cargo (laden vessels only).....           | 4,724       | 5,149      | 3,970       |

## UNITED STATES COASTWISE TRAFFIC.

|                    | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|--------------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                    | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.              |                      |                    |             |                |                      |                    |             |                |
| June.....          | 17                   | 96,199             | \$94,577.11 | 68,809         | 11                   | 53,986             | \$53,953.75 | 57,234         |
| July.....          | 19                   | 101,924            | 99,474.75   | 60,997         | 14                   | 70,477             | 72,103.75   | 91,991         |
| August.....        | 19                   | 86,278             | 81,734.17   | 55,387         | 23                   | 110,899            | 118,316.25  | 129,792        |
| September.....     | 25                   | 134,239            | 136,340.58  | 72,620         | 15                   | 88,111             | 83,011.64   | 104,642        |
| October.....       | 22                   | 113,712            | 116,752.05  | 86,442         | 19                   | 96,731             | 101,710.00  | 105,951        |
| November.....      | 24                   | 136,349            | 131,558.19  | 91,067         | 17                   | 86,958             | 88,339.80   | 101,460        |
| December.....      | 20                   | 104,152            | 106,549.80  | 73,967         | 23                   | 116,482            | 117,600.08  | 105,134        |
| January, 1922..... | 28                   | 138,928            | 141,404.35  | 119,413        | 20                   | 108,921            | 111,440.00  | 86,862         |
| February.....      | 25                   | 117,512            | 116,235.50  | 94,548         | 19                   | 89,862             | 84,133.82   | 84,330         |
| March.....         | 34                   | 162,572            | 161,738.65  | 141,648        | 25                   | 128,988            | 124,465.78  | 123,657        |
| April.....         | 24                   | 114,283            | 110,272.10  | 137,207        | 26                   | 131,193            | 130,010.00  | 118,662        |
| May.....           | 32                   | 152,260            | 153,626.80  | 173,128        | 23                   | 108,686            | 111,151.00  | 108,319        |
| June.....          | 34                   | 161,981            | 156,172.74  | 181,651        | 25                   | 121,156            | 113,554.60  | 113,692        |

## UNITED STATES SHIPPING. BOARD VESSELS.

|                    | Atlantic to Pacific. |                    |             |                | Pacific to Atlantic. |                    |             |                |
|--------------------|----------------------|--------------------|-------------|----------------|----------------------|--------------------|-------------|----------------|
|                    | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. | No. of ships.        | P. C. net tonnage. | Tolls.      | Tons of cargo. |
| 1921.              |                      |                    |             |                |                      |                    |             |                |
| June.....          | 17                   | 86,361             | \$78,770.14 | 65,945         | 11                   | 49,370             | \$48,080.00 | 59,696         |
| July.....          | 12                   | 67,851             | 65,796.25   | 29,918         | 12                   | 60,804             | 61,305.00   | 82,767         |
| August.....        | 15                   | 76,570             | 71,607.58   | 46,542         | 18                   | 79,390             | 77,353.39   | 91,897         |
| September.....     | 10                   | 53,816             | 51,785.48   | 38,368         | 16                   | 84,433             | 82,566.25   | 109,610        |
| October.....       | 10                   | 55,300             | 53,475.00   | 34,593         | 14                   | 61,980             | 62,318.75   | 79,129         |
| November.....      | 12                   | 74,635             | 71,525.74   | 44,976         | 5                    | 29,949             | 29,127.50   | 28,865         |
| December.....      | 9                    | 47,604             | 46,318.75   | 44,101         | 6                    | 32,957             | 32,803.75   | 28,784         |
| January, 1922..... | 6                    | 34,546             | 34,756.25   | 23,575         | 7                    | 31,550             | 30,646.95   | 28,831         |
| February.....      | 8                    | 39,168             | 36,706.25   | 49,424         | 6                    | 32,909             | 31,538.75   | 21,119         |
| March.....         | 16                   | 84,766             | 86,531.95   | 90,633         | 9                    | 51,848             | 46,734.40   | 37,310         |
| April.....         | 7                    | 35,406             | 35,006.25   | 51,244         | 9                    | 49,140             | 50,900.85   | 43,783         |
| May.....           | 13                   | 68,285             | 67,898.75   | 89,483         | 9                    | 42,499             | 41,595.00   | 50,953         |
| June.....          | 9                    | 44,694             | 45,091.20   | 50,219         | 4                    | 18,833             | 15,957.14   | 16,230         |

## ORIGIN AND DESTINATION OF TONNAGE.

The following statements show, by months, the origin and destination of all tonnage through the Canal during the past year, the figures representing the Panama Canal net tonnage:

## ORIGIN OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.                           | East coast of United States. | Europe. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|----------------------------------|------------------------------|---------|---------|------------|----------------|---------|
| 1921.                            |                              |         |         |            |                |         |
| June.....                        | 250,806                      | 79,129  | 37,401  | 28,920     | 19,046         | 415,302 |
| July.....                        | 221,318                      | 124,108 | 23,167  | 23,488     | 10,970         | 403,051 |
| August.....                      | 257,600                      | 175,768 | 15,527  | 21,202     | 17,122         | 487,219 |
| September.....                   | 277,984                      | 160,534 | 10,889  | 23,038     | 58,189         | 530,634 |
| October.....                     | 262,440                      | 226,431 | 27,828  | 20,516     | 33,960         | 571,175 |
| November.....                    | 301,680                      | 192,594 | 14,997  | 18,444     | 11,302         | 539,017 |
| December.....                    | 312,225                      | 198,287 | 21,113  | 15,601     | 28,443         | 575,669 |
| 1922.                            |                              |         |         |            |                |         |
| January.....                     | 279,870                      | 153,315 | 30,271  | 18,398     | 31,910         | 513,764 |
| February.....                    | 273,996                      | 146,572 | 30,477  | 19,061     | 17,899         | 488,005 |
| March.....                       | 382,213                      | 144,630 | 17,223  | 21,389     | 20,586         | 586,041 |
| April.....                       | 305,725                      | 138,836 | 15,443  | 17,508     | 43,176         | 520,688 |
| May.....                         | 403,970                      | 118,012 | 26,305  | 22,529     | 23,897         | 594,713 |
| June.....                        | 367,338                      | 159,506 | 22,949  | 18,182     | 26,221         | 594,196 |
| Average month for past year..... | 291,100                      | 158,309 | 22,274  | 20,479     | 26,569         | 518,731 |

## DESTINATION OF ALL TONNAGE—ATLANTIC TO PACIFIC.

| Month.                           | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|----------------------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| 1921.                            |                              |                              |           |              |                |         |
| June.....                        | 143,217                      | 106,369                      | 83,063    | 46,298       | 36,355         | 415,302 |
| July.....                        | 194,358                      | 45,391                       | 63,969    | 58,062       | 41,271         | 403,051 |
| August.....                      | 164,577                      | 106,886                      | 94,486    | 70,551       | 50,719         | 487,219 |
| September.....                   | 268,758                      | 90,105                       | 80,242    | 53,309       | 38,220         | 530,634 |
| October.....                     | 280,483                      | 78,532                       | 100,332   | 69,037       | 42,771         | 571,175 |
| November.....                    | 216,092                      | 107,721                      | 95,216    | 78,493       | 41,495         | 539,017 |
| December.....                    | 188,615                      | 115,980                      | 136,940   | 84,391       | 49,743         | 575,669 |
| 1922.                            |                              |                              |           |              |                |         |
| January.....                     | 170,927                      | 112,160                      | 100,878   | 83,526       | 46,273         | 513,764 |
| February.....                    | 151,388                      | 107,476                      | 107,197   | 94,271       | 27,673         | 488,005 |
| March.....                       | 195,833                      | 105,532                      | 149,697   | 83,107       | 51,872         | 586,041 |
| April.....                       | 145,819                      | 121,973                      | 121,594   | 81,436       | 49,866         | 520,688 |
| May.....                         | 184,282                      | 142,801                      | 178,176   | 49,410       | 40,044         | 594,713 |
| June.....                        | 197,065                      | 158,597                      | 99,806    | 86,551       | 52,177         | 594,196 |
| Average month for past year..... | 193,094                      | 104,726                      | 102,785   | 74,088       | 44,037         | 518,731 |

## ORIGIN OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.                           | West coast of United States. | West coast of South America. | Far East. | Australasia. | Miscellaneous. | Total.  |
|----------------------------------|------------------------------|------------------------------|-----------|--------------|----------------|---------|
| 1921.                            |                              |                              |           |              |                |         |
| June.....                        | 116,521                      | 112,474                      | 18,740    | 75,400       | 23,040         | 346,075 |
| July.....                        | 174,412                      | 99,745                       | 41,084    | 70,124       | 22,197         | 407,562 |
| August.....                      | 229,629                      | 110,248                      | 20,628    | 68,661       | 48,894         | 478,067 |
| September.....                   | 218,453                      | 84,212                       | 14,762    | 30,814       | 46,262         | 394,503 |
| October.....                     | 252,645                      | 124,560                      | 37,720    | 41,436       | 42,018         | 498,379 |
| November.....                    | 189,942                      | 126,381                      | 23,556    | 6,581        | 56,934         | 403,394 |
| December.....                    | 195,969                      | 135,952                      | 28,194    | 39,616       | 41,844         | 441,575 |
| 1922.                            |                              |                              |           |              |                |         |
| January.....                     | 152,992                      | 100,224                      | 16,860    | 27,172       | 35,504         | 332,752 |
| February.....                    | 142,693                      | 110,778                      | 21,594    | 42,950       | 80,515         | 398,530 |
| March.....                       | 175,669                      | 104,847                      | 15,008    | 48,575       | 45,671         | 389,770 |
| April.....                       | 182,496                      | 124,842                      | 31,969    | 75,485       | 39,353         | 454,145 |
| May.....                         | 170,412                      | 133,033                      | 24,383    | 41,334       | 68,936         | 438,103 |
| June.....                        | 160,229                      | 110,603                      | 16,857    | 9,982        | 78,846         | 376,517 |
| Average month for past year..... | 186,221                      | 108,427                      | 24,099    | 43,809       | 46,820         | 409,376 |

## DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.

| Month.         | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|----------------|---------|------------------------------|---------|------------|----------------|---------|
| 1921.          |         |                              |         |            |                |         |
| June.....      | 155,147 | 136,292                      | 18,324  | 26,112     | 10,300         | 346,175 |
| July.....      | 205,690 | 134,047                      | 23,123  | 28,770     | 15,932         | 407,562 |
| August.....    | 231,830 | 194,279                      | 27,256  | 22,022     | 2,670          | 478,057 |
| September..... | 204,820 | 140,555                      | 26,478  | 17,114     | 5,536          | 394,503 |
| October.....   | 259,613 | 170,189                      | 18,222  | 30,955     | 19,400         | 498,379 |
| November.....  | 196,974 | 164,345                      | 20,446  | 16,760     | 4,869          | 403,394 |
| December.....  | 191,277 | 192,575                      | 25,550  | 21,739     | 10,434         | 441,575 |

## DESTINATION OF ALL TONNAGE—PACIFIC TO ATLANTIC.—continued.

| Month.                           | Europe. | East coast of United States. | Mexico. | Cristobal. | Miscellaneous. | Total.  |
|----------------------------------|---------|------------------------------|---------|------------|----------------|---------|
| 1922.                            |         |                              |         |            |                |         |
| January.....                     | 115,392 | 168,337                      | 26,831  | 16,489     | 5,703          | 332,752 |
| February.....                    | 163,919 | 172,900                      | 31,767  | 18,242     | 11,702         | 398,530 |
| March.....                       | 134,687 | 193,267                      | 34,969  | 18,724     | 8,123          | 389,770 |
| April.....                       | 169,493 | 242,087                      | 6,615   | 20,266     | 15,684         | 454,145 |
| May.....                         | 165,143 | 224,244                      | 17,474  | 16,637     | 14,605         | 438,103 |
| June.....                        | 111,440 | 215,947                      | 16,301  | 27,306     | 5,523          | 376,517 |
| Average month for past year..... | 176,714 | 180,800                      | 19,097  | 21,894     | 10,871         | 409,376 |

In connection with the foregoing tabulations, the following statement shows the percentage of increase or decrease for the month of June, 1922, of Panama Canal net tonnage to and from the principal geographical regions contributing to Canal traffic, as compared with the average month for the past year.

|                                  | Tonnage routed to— |                    | Tonnage routed from— |                    |
|----------------------------------|--------------------|--------------------|----------------------|--------------------|
|                                  | Per cent increase. | Per cent decrease. | Per cent increase.   | Per cent decrease. |
| Europe.....                      |                    | 58.6               | 0.7                  |                    |
| East coast of United States..... | 19.4               |                    | 29.3                 |                    |
| East coast of Mexico.....        |                    | 14.6               | 3.0                  |                    |
| Cristobal, C. Z.....             |                    | 24.7               |                      | 11.2               |
| West coast of United States..... | 2.1                |                    |                      | 14.0               |
| West coast of South America..... | 51.4               |                    | 2.0                  |                    |
| Australasia.....                 | 16.8               |                    |                      | 77.2               |
| Far East.....                    |                    | 3.0                |                      | 43.0               |

## TRAFFIC BY TRADE ROUTES.

A detailed statement of traffic through the Panama Canal by trade routes for the month of June, 1922, was published in THE PANAMA CANAL RECORD under date of July 12, 1922. The following tabulations show the number of vessels, Panama Canal net tonnage, and tons of cargo carried over the principal trade routes during June, 1922, as compared with the preceding month, and with the corresponding month of last year.

|                                      | Atlantic to Pacific.      |            |             | Pacific to Atlantic.      |            |             |
|--------------------------------------|---------------------------|------------|-------------|---------------------------|------------|-------------|
|                                      | June, 1922.               | May, 1922. | June, 1921. | June, 1922.               | May, 1922. | June, 1921. |
|                                      | Number of vessels.        |            |             | Number of vessels.        |            |             |
| United States coastwise ports.....   | 34                        | 32         | 17          | 25                        | 23         | 11          |
| United States and Far East.....      | 19                        | 32         | 15          | 3                         | 5          | 4           |
| Europe and United States.....        | 5                         | 5          | 5           | 6                         | 11         | 12          |
| United States and South America..... | 14                        | 13         | 10          | 12                        | 19         | 14          |
| Europe and South America.....        | 14                        | 11         | 8           | 8                         | 8          | 9           |
| Cristobal and South America.....     | 9                         | 10         | 15          | 11                        | 8          | 14          |
| Europe and Australasia.....          | 7                         | 3          | 2           | 1                         | 5          | 10          |
| United States and Australasia.....   | 7                         | 3          | 5           | 1                         | 1          | 1           |
| Europe and Canada.....               | 5                         | 4          | 1           | 7                         | 7          |             |
| Mexico and United States.....        |                           |            | 2           |                           |            |             |
| Mexico and South America.....        | 4                         | 5          | 3           | 2                         | 3          | 2           |
| United States and Canada.....        | 1                         | 2          | 2           | 4                         | 4          | 2           |
| Miscellaneous.....                   | 16                        | 14         | 18          | 13                        | 15         | 10          |
| Totals.....                          | 135                       | 134        | 103         | 93                        | 109        | 89          |
|                                      | Panama Canal net tonnage. |            |             | Panama Canal net tonnage. |            |             |
| United States coastwise ports.....   | 161,981                   | 152,260    | 96,199      | 121,156                   | 108,686    | 53,986      |
| United States and Far East.....      | 95,705                    | 169,435    | 78,774      | 16,857                    | 24,388     | 18,420      |
| Europe and United States.....        | 27,867                    | 23,309     | 26,138      | 29,803                    | 55,260     | 56,768      |
| United States and South America..... | 57,326                    | 55,713     | 31,436      | 43,627                    | 64,825     | 51,040      |
| Europe and South America.....        | 58,517                    | 44,611     | 33,678      | 35,784                    | 36,327     | 27,603      |
| Cristobal and South America.....     | 14,285                    | 17,876     | 25,929      | 19,580                    | 13,334     | 21,872      |
| Europe and Australasia.....          | 44,934                    | 23,804     | 14,414      | 6,581                     | 32,230     | 70,456      |
| United States and Australasia.....   | 37,525                    | 15,986     | 31,884      | 3,401                     | 4,944      | 4,944       |
| Europe and Canada.....               | 26,188                    | 24,114     | 4,899       | 37,952                    | 37,041     |             |
| Mexico and United States.....        |                           |            | 12,992      |                           |            |             |
| Mexico and South America.....        | 17,638                    | 23,979     | 14,704      | 10,990                    | 12,989     | 10,132      |
| United States and Canada.....        | 4,225                     | 9,657      | 3,655       | 23,481                    | 19,639     | 7,902       |
| Miscellaneous.....                   | 48,005                    | 33,969     | 41,400      | 27,305                    | 28,440     | 23,053      |
| Totals.....                          | 594,196                   | 594,713    | 415,302     | 376,517                   | 438,103    | 346,175     |

|                                      | Atlantic to Pacific.   |               |                | Pacific to Atlantic.   |               |                |
|--------------------------------------|------------------------|---------------|----------------|------------------------|---------------|----------------|
|                                      | June,<br>1922.         | May,<br>1922. | June,<br>1921. | June,<br>1922.         | May,<br>1922. | June,<br>1921. |
|                                      | Tons of cargo carried. |               |                | Tons of cargo carried. |               |                |
| United States coastwise ports.....   | 181,651                | 173,128       | 68,809         | 113,692                | 108,319       | 57,234         |
| United States and Far East.....      | 140,962                | 264,900       | 88,567         | 19,936                 | 35,955        | 17,584         |
| Europe and United States.....        | 8,404                  | 19,522        | 15,545         | 49,541                 | 92,495        | 89,641         |
| United States and South America..... | 36,136                 | 28,546        | 25,545         | 59,531                 | 81,393        | 56,081         |
| Europe and South America.....        | 47,963                 | 37,547        | 15,985         | 32,594                 | 49,546        | 37,491         |
| Cristobal and South America.....     | 2,827                  | 3,132         | 3,818          | 8,344                  | 5,218         | 8,921          |
| Europe and Australasia.....          | 29,357                 | 14,935        | 4,418          | 5,440                  | 21,469        | 40,130         |
| United States and Australasia.....   | 37,177                 | 18,710        | 33,538         | 4,500                  | 1,065         | 5,344          |
| Europe and Canada.....               | 23,809                 | 15,569        | 2,398          | 55,579                 | 52,449        | .....          |
| Mexico and United States.....        | .....                  | .....         | 20,000         | .....                  | .....         | .....          |
| Mexico and South America.....        | 32,888                 | 44,109        | 27,712         | .....                  | .....         | .....          |
| United States and Canada.....        | 5,500                  | 15,300        | 6,800          | 31,208                 | 21,322        | 12,380         |
| Miscellaneous.....                   | 39,703                 | 38,000        | 46,449         | 10,736                 | 15,878        | 10,330         |
| Totals.....                          | 586,377                | 673,398       | 359,584        | 391,101                | 485,109       | 335,136        |

## TOLLS.

Under the present dual method of assessing tolls, the revenue from this source was \$932,290.42. Had the net tonnage as determined by the Panama Canal rules of measurement been used throughout as a basis for collecting tolls, the total revenue would have been increased by \$197,092.70. The additional tolls would have been contributed by nationality of vessels as follows:

|                    | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total:      |
|--------------------|----------------------------|----------------------------|-------------|
| British.....       | \$39,065.82                | \$9,458.65                 | \$48,524.47 |
| Chilean.....       | 1,681.35                   | 2,548.10                   | 4,229.45    |
| Danish.....        | 3,541.05                   | 2,126.95                   | 5,668.00    |
| Dutch.....         | 3,305.50                   | 6,862.25                   | 10,167.75   |
| French.....        | 493.20                     | 676.45                     | 1,169.65    |
| German.....        | 1,379.60                   | 902.30                     | 2,281.90    |
| Italian.....       | .....                      | 1,130.10                   | 1,130.10    |
| Japanese.....      | 1,476.20                   | 3,035.50                   | 4,511.70    |
| Norwegian.....     | 6,961.80                   | 902.90                     | 7,864.70    |
| Panamanian.....    | .....                      | 1.56                       | 1.56        |
| Peruvian.....      | 4,673.95                   | 4,673.95                   | 9,347.90    |
| Swedish.....       | 2,332.10                   | .....                      | 2,332.10    |
| United States..... | 52,679.59                  | 47,186.95                  | 99,866.54   |
| Totals.....        | 117,590.16                 | 79,502.54                  | 197,092.70  |

\*Tolls greater through use of U. S. equivalent tonnage.

The additional tolls which would have been assessed against vessels of United States registry would have been distributed among the following channels of trade:

|                                                  | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total.      |
|--------------------------------------------------|----------------------------|----------------------------|-------------|
| United States coastwise ports.....               | \$37,587.50                | \$29,161.40                | \$66,748.90 |
| United States and Canal Zone ports.....          | 1,343.75                   | 847.80                     | 2,191.55    |
| United States and United States possessions..... | 1,040.80                   | .....                      | 1,040.80    |
| United States and foreign ports.....             | 9,671.04                   | 13,366.75                  | 23,037.79   |
| Between foreign ports.....                       | 3,036.50                   | 3,811.00                   | 6,847.50    |
| Totals.....                                      | 52,679.59                  | 47,186.95                  | 99,866.54   |

Of the \$197,092.70 additional revenue that would have been collected by using the Panama Canal rules of measurement exclusively, \$8,604 represents the additional tolls that would have been collected on account of deck cargo.

## AVERAGE TOLLS PAID PER CARGO TON BY NATIONALITY OF VESSELS.

All cargo-carrying vessels pay tolls on their net tonnage as determined by established rules for measuring their available cargo-carrying space; the rate of such tolls per cargo ton varying in different vessels and in vessels of different nationalities with the ratio of cargo tonnage to net tonnage. The table below is indicative of the ratio of cargo tonnage to net tonnage for the month of June, 1922, by nationality of vessels.



|                                               | Atlantic<br>to<br>Pacific. | Pacific<br>to<br>Atlantic. | Total. |
|-----------------------------------------------|----------------------------|----------------------------|--------|
| British.....                                  | \$1.04                     | \$0.83                     | \$0.97 |
| Chilean.....                                  | 1.37                       | 4.93                       | 1.99   |
| Danish.....                                   | .75                        | .89                        | .81    |
| Dutch.....                                    | 1.01                       | .72                        | .81    |
| French.....                                   | 2.41                       | .80                        | 1.30   |
| German.....                                   | .76                        | 1.03                       | .88    |
| Italian.....                                  | .68                        | 8.49                       | 1.09   |
| Japanese.....                                 | .79                        | .86                        | .82    |
| Norwegian.....                                | .57                        | .72                        | .61    |
| Peruvian.....                                 | 4.54                       | 1.19                       | 1.89   |
| Swedish.....                                  | .53                        |                            | .53    |
| United States.....                            | .85                        | .85                        | .85    |
| Average rate for all vessels, June, 1922..... | .91                        | .85                        | .89    |
| Average rate for all vessels, May, 1922.....  | .82                        | .86                        | .84    |
| Average rate for all vessels, June, 1921..... | 1.11                       | .93                        | 1.02   |

## COMMODITY STATISTICS.

A classification of cargo passing through the Panama Canal during the month of June, 1922, has been compiled from declarations of cargo and manifests submitted by the ships' masters, and while incomplete, it is indicative of the kind and quantity of the various commodities carried by vessels transiting the Canal. From the cargo declarations and manifests submitted it was possible to classify by commodities 72 per cent of all cargo passing from the Atlantic to the Pacific and 92 per cent of all cargo passing from Pacific to Atlantic ports. A brief summary of the principal items is shown herewith, the figures representing tons of 2,240 pounds.

| Commodity.                      | June,<br>1922. | May,<br>1922. | June,<br>1921. |
|---------------------------------|----------------|---------------|----------------|
| Atlantic to Pacific.            |                |               |                |
| Manufactured goods:             |                |               |                |
| Iron and steel.....             | 134,947        | 195,005       | 60,923         |
| Machinery.....                  | 4,904          | 20,347        | 7,030          |
| Railroad material.....          | 19,730         | 18,139        | 3,434          |
| Textiles.....                   | 5,812          | 13,360        | 964            |
| Other manufactured goods.....   | 23,136         | 9,330         | 2,170          |
| Oil:                            |                |               |                |
| Crude petroleum.....            | 49,362         | 41,848        | 98,099         |
| Refined.....                    | 44,387         | 97,091        | 30,598         |
| Coal.....                       | 37,080         | 21,075        | 15,455         |
| Metals:                         |                |               |                |
| Tin.....                        | 12,692         | 11,643        |                |
| Iron.....                       | 12,487         | 3,323         | 3,113          |
| Sulphur.....                    | 11,450         | 12,373        | 11,700         |
| Sugar.....                      | 7,474          | 6,640         |                |
| Ore, iron.....                  | 7,370          | 109           |                |
| Cotton, raw.....                | 4,893          | 3,995         | 11,997         |
| Glass.....                      | 3,437          | 6,122         | 1,604          |
| Liquors.....                    | 2,572          | 645           | 437            |
| General and miscellaneous.....  | 204,644        | 212,353       | 112,060        |
| Total, Atlantic to Pacific..... | 586,377        | 673,398       | 359,584        |
| Pacific to Atlantic.            |                |               |                |
| Lumber.....                     | 82,727         | 96,637        | 31,402         |
| Wheat.....                      | 41,285         | 71,697        | 58,261         |
| Oils:                           |                |               |                |
| Refined.....                    | 23,908         | 22,525        | 7,248          |
| Crude.....                      | 13,541         | 19,264        | 2              |
| Lubricating.....                | 11,300         |               |                |
| Copper:                         |                |               |                |
| Metal.....                      | 19,505         | 15,148        | 9,525          |
| Ore.....                        | 10,834         | 9,245         | 1,030          |
| Nitrate.....                    | 24,043         | 29,565        | 58,801         |
| Barley.....                     | 17,909         | 18,411        | 18,932         |
| Sugar.....                      | 15,505         | 35,398        | 10,821         |
| Canned goods:                   |                |               |                |
| Fruit.....                      | 9,721          | 5,707         | 4,931          |
| Fish.....                       | 4,303          | 5,639         | 3,647          |
| Wool.....                       | 8,051          | 14,147        | 4,623          |
| Coffee.....                     | 7,587          | 13,334        | 11,084         |
| Flour.....                      | 6,812          | 6,533         | 5,217          |
| Beans, peas, lentils, etc.....  | 5,407          | 2,663         | 3,519          |
| Cotton.....                     | 4,996          | 3,760         | 1,141          |
| Cacao.....                      | 3,451          | 7,590         | 3,889          |
| Miscellaneous and general.....  | 80,216         | 107,846       | 101,063        |
| Total, Pacific to Atlantic..... | 391,101        | 485,109       | 335,136        |

## THE PANAMA CANAL RECORD

## TRAFFIC BY NATIONALITY.

| Nationality.              | No. of ships. | TONNAGE.                  |                   |             |         | Tolls.       | Tons of cargo. |
|---------------------------|---------------|---------------------------|-------------------|-------------|---------|--------------|----------------|
|                           |               | United States equivalent. | Panama Canal net. | Registered. |         |              |                |
|                           |               |                           |                   | Gross.      | Net.    |              |                |
| From Atlantic to Pacific. |               |                           |                   |             |         |              |                |
| British.....              | 47            | 178,556                   | 220,197           | 279,900     | 179,972 | \$211,499.70 | 183,289        |
| Chilean.....              | 2             | 4,029                     | 5,598             | 8,690       | 4,614   | 5,036.25     | 3,688          |
| Danish.....               | 3             | 8,081                     | 10,929            | 11,757      | 7,341   | 10,035.75    | 13,412         |
| Dutch.....                | 3             | 9,946                     | 13,087            | 15,679      | 9,851   | 12,432.50    | 12,366         |
| French.....               | 3             | 10,634                    | 11,201            | 15,392      | 9,791   | 12,966.00    | 5,363          |
| German.....               | 2             | 5,528                     | 6,886             | 8,926       | 5,562   | 6,910.00     | 9,029          |
| Italian.....              | 1             | 4,025                     | 4,049             | 5,400       | 3,319   | 4,858.80     | 7,154          |
| Japanese.....             | 5             | 20,966                    | 22,764            | 30,104      | 20,652  | 25,840.60    | 32,739         |
| Mexican.....              | 1             | 786                       | 952               | 1,462       | 892     | 685.44       | .....          |
| Norwegian.....            | 5             | 17,676                    | 24,160            | 28,639      | 17,727  | 22,095.00    | 38,456         |
| Peruvian.....             | 3             | 4,225                     | 8,293             | 13,764      | 7,190   | 5,281.25     | 1,163          |
| Spanish.....              | 1             | 3,031                     | 3,437             | 4,648       | 2,877   | 2,503.44     | 40             |
| Swedish.....              | 2             | 4,478                     | 6,580             | 8,609       | 5,676   | 5,597.50     | 10,572         |
| United States.....        | 57            | 204,144                   | 256,060           | 319,112     | 203,827 | 245,419.13   | 269,093        |
| Totals, June, 1922.....   | 135           | 476,105                   | 594,196           | 752,082     | 479,291 | 571,161.36   | 586,377        |
| Totals, May, 1922.....    | 134           | 472,852                   | 594,713           | 742,419     | 467,705 | 578,433.82   | 673,398        |
| Totals, June, 1921.....   | 103           | 336,515                   | 415,302           | 520,884     | 331,420 | 416,543.07   | 359,584        |
| From Pacific to Atlantic. |               |                           |                   |             |         |              |                |
| British.....              | 25            | 71,124                    | 82,896            | 111,335     | 69,196  | \$82,440.47  | 85,186         |
| Chilean.....              | 2             | 3,086                     | 5,338             | 6,527       | 3,905   | 3,857.50     | 782            |
| Danish.....               | 2             | 7,501                     | 9,357             | 11,869      | 7,584   | 9,376.25     | 10,514         |
| Dutch.....                | 4             | 15,035                    | 21,071            | 24,157      | 15,006  | 18,793.75    | 26,156         |
| French.....               | 2             | 7,957                     | 8,529             | 11,721      | 7,455   | 9,774.35     | 12,161         |
| German.....               | 2             | 5,570                     | 6,474             | 8,984       | 5,629   | 6,962.50     | 6,758          |
| Italian.....              | 1             | 2,718                     | 3,773             | 4,680       | 2,850   | 3,397.50     | 400            |
| Japanese.....             | 3             | 13,762                    | 16,857            | 21,813      | 13,486  | 17,202.50    | 19,936         |
| Norwegian.....            | 3             | 7,957                     | 8,811             | 11,269      | 7,828   | 9,670.30     | 13,401         |
| Panaman.....              | 1             | 52                        | 52                | 79          | 52      | 39.00        | .....          |
| Peruvian.....             | 3             | 4,225                     | 8,296             | 13,764      | 7,190   | 5,281.25     | 4,434          |
| United States.....        | 45            | 158,706                   | 205,063           | 249,758     | 156,938 | 194,333.69   | 211,373        |
| Totals, June, 1922.....   | 93            | 297,693                   | 376,517           | 475,956     | 297,119 | 361,129.06   | 391,101        |
| Totals, May, 1922.....    | 109           | 355,831                   | 438,103           | 555,134     | 354,585 | 436,623.55   | 485,109        |
| Totals, June, 1921.....   | 89            | 277,379                   | 346,175           | 439,973     | 279,071 | 335,421.05   | 335,136        |
| Total traffic.            |               |                           |                   |             |         |              |                |
| British.....              | 72            | 249,680                   | 303,093           | 391,235     | 249,168 | \$293,940.17 | 268,475        |
| Chilean.....              | 4             | 7,115                     | 10,936            | 15,217      | 8,519   | 8,893.75     | 4,470          |
| Danish.....               | 5             | 15,582                    | 20,286            | 23,626      | 14,925  | 19,412.00    | 23,926         |
| Dutch.....                | 7             | 24,981                    | 34,158            | 39,836      | 24,857  | 31,226.25    | 38,522         |
| French.....               | 5             | 18,591                    | 19,730            | 27,113      | 17,246  | 22,740.35    | 17,537         |
| German.....               | 4             | 11,098                    | 13,360            | 17,910      | 11,191  | 13,872.50    | 15,787         |
| Italian.....              | 2             | 6,743                     | 7,822             | 10,080      | 6,169   | 8,256.30     | 7,554          |
| Japanese.....             | 8             | 34,728                    | 39,621            | 51,917      | 34,138  | 43,043.10    | 52,675         |
| Mexican.....              | 1             | 786                       | 952               | 1,462       | 892     | 685.44       | .....          |
| Norwegian.....            | 8             | 25,633                    | 32,971            | 39,908      | 25,555  | 31,765.30    | 51,857         |
| Panaman.....              | 1             | 52                        | 52                | 79          | 52      | 39.00        | .....          |
| Peruvian.....             | 6             | 8,450                     | 16,592            | 27,528      | 14,380  | 10,562.50    | 5,597          |
| Spanish.....              | 1             | 3,031                     | 3,437             | 4,648       | 2,877   | 2,503.44     | 40             |
| Swedish.....              | 2             | 4,478                     | 6,580             | 8,609       | 5,676   | 5,597.50     | 10,572         |
| United States.....        | 102           | 362,850                   | 461,123           | 568,870     | 360,765 | 439,752.82   | 480,466        |
| Totals, June, 1922.....   | 228           | 773,798                   | 970,713           | 1,228,038   | 776,410 | 932,290.42   | 977,478        |
| Totals, May, 1922.....    | 243           | 828,683                   | 1,032,816         | 1,297,553   | 822,290 | 1,015,057.37 | 1,158,507      |
| Totals, June, 1921.....   | 192           | 613,894                   | 761,477           | 960,857     | 610,491 | 751,964.12   | 674,720        |

## LATIN-AMERICAN TRAFFIC.

## ATLANTIC TO PACIFIC.

| Nationality.       | No. of ships. | TONNAGE.                  |                   |             |        | Tolls.      | Tons of cargo. |
|--------------------|---------------|---------------------------|-------------------|-------------|--------|-------------|----------------|
|                    |               | United States equivalent. | Panama Canal net. | Registered. |        |             |                |
|                    |               |                           |                   | Gross.      | Net.   |             |                |
| British.....       | 21            | 56,830                    | 70,600            | 93,352      | 57,630 | \$68,949.27 | 63,328         |
| United States..... | 17            | 59,115                    | 69,510            | 91,289      | 58,329 | 64,939.19   | 52,602         |
| Danish.....        | 3             | 8,081                     | 10,929            | 11,757      | 7,341  | 10,035.75   | 13,412         |
| German.....        | 2             | 5,528                     | 6,886             | 8,926       | 5,562  | 6,910.00    | 9,029          |

## ATLANTIC TO PACIFIC—continued.

| Nationality.            | No. of ships. | TONNAGE.                  |                   |             |         | Tolls.     | Tons of cargo. |
|-------------------------|---------------|---------------------------|-------------------|-------------|---------|------------|----------------|
|                         |               | United States equivalent. | Panama Canal net. | Registered. |         |            |                |
|                         |               |                           |                   | Gross.      | Net.    |            |                |
| French.....             | 2             | 5,755                     | 6,242             | 8,718       | 5,561   | \$7,015.20 | 3,474          |
| Peruvian.....           | 3             | 4,225                     | 8,296             | 13,764      | 7,190   | 5,281.25   | 1,163          |
| Chilean.....            | 2             | 4,029                     | 5,598             | 8,690       | 4,614   | 5,036.25   | 3,688          |
| Japanese.....           | 1             | 3,590                     | 4,101             | 5,760       | 3,548   | 4,487.50   | 5,064          |
| Swedish.....            | 1             | 1,349                     | 1,458             | 2,316       | 1,630   | 1,686.25   | 2,168          |
| Dutch.....              | 1             | 2,290                     | 3,660             | 3,689       | 2,291   | 2,862.50   | 3,028          |
| Spanish.....            | 1             | 3,031                     | 3,437             | 4,648       | 2,877   | 2,503.44   | 40             |
| Mexican.....            | 1             | 786                       | 952               | 1,462       | 892     | 685.44     | .....          |
| Totals, June, 1922..... | 55            | 154,609                   | 191,669           | 254,371     | 157,465 | 180,392.04 | 156,996        |
| Totals, May, 1922.....  | 50            | 130,383                   | 166,380           | 208,319     | 133,295 | 152,726.17 | 140,255        |
| Totals, June, 1921..... | 53            | 117,044                   | 149,446           | 190,457     | 117,636 | 142,071.96 | 129,973        |

## PACIFIC TO ATLANTIC.

|                         |    |         |         |         |         |             |         |
|-------------------------|----|---------|---------|---------|---------|-------------|---------|
| British.....            | 19 | 47,915  | 54,607  | 68,655  | 45,860  | \$53,429.22 | 43,467  |
| United States.....      | 11 | 28,772  | 36,267  | 46,111  | 29,305  | 34,057.84   | 29,766  |
| Norwegian.....          | 3  | 7,957   | 8,811   | 11,269  | 7,828   | 9,670.30    | 13,401  |
| Peruvian.....           | 3  | 4,225   | 8,296   | 13,764  | 7,190   | 5,281.25    | 4,434   |
| German.....             | 2  | 5,570   | 6,474   | 8,984   | 5,629   | 6,962.50    | 6,758   |
| Dutch.....              | 2  | 4,399   | 7,452   | 7,107   | 4,396   | 5,498.75    | 7,627   |
| Chilean.....            | 2  | 3,086   | 5,358   | 6,527   | 3,905   | 3,857.50    | 782     |
| Danish.....             | 1  | 4,257   | 5,341   | 6,650   | 4,247   | 5,321.25    | 4,570   |
| Italian.....            | 1  | 2,718   | 3,773   | 4,680   | 2,850   | 3,397.50    | 403     |
| Totals, June, 1922..... | 44 | 108,899 | 136,359 | 173,747 | 111,210 | 127,476.11  | 111,205 |
| Totals, May, 1922.....  | 50 | 119,900 | 151,741 | 196,681 | 121,404 | 141,732.10  | 150,435 |
| Totals, June, 1921..... | 48 | 101,952 | 133,379 | 173,595 | 105,412 | 117,073.95  | 112,823 |

A further classification of commercial traffic is shown below:

|                         | Atlantic to Pacific. |                           |              | Pacific to Atlantic. |                           |              |
|-------------------------|----------------------|---------------------------|--------------|----------------------|---------------------------|--------------|
|                         | No. of ships.        | Panama Canal net tonnage. | Tolls.       | No. of ships.        | Panama Canal net tonnage. | Tolls.       |
| Cargo-carrying vessels: |                      |                           |              |                      |                           |              |
| Laden.....              | 123                  | 538,820                   | \$530,256.54 | 85                   | 343,609                   | \$337,024.99 |
| Ballast.....            | 10                   | 54,024                    | 39,522.63    | 6                    | 31,981                    | 23,026.32    |
| Cable ship.....         | 1                    | 875                       | 1,038.75     | 1                    | 875                       | 1,038.75     |
| Yacht.....              | 1                    | 477                       | 343.44       | .....                | .....                     | .....        |
| Launch.....             | .....                | .....                     | .....        | 1                    | 52                        | 39.00        |
| Totals.....             | 135                  | 594,196                   | 571,161.36   | 93                   | 376,517                   | 361,129.06   |
| Steamships.....         | 126                  | 572,447                   | 553,497.77   | 87                   | 366,089                   | 350,517.56   |
| Motor ships.....        | 2                    | 10,783                    | 7,873.75     | 2                    | 9,357                     | 9,376.25     |
| Motor schooners.....    | 2                    | 144                       | 157.50       | 2                    | 144                       | 157.50       |
| Barges.....             | 2                    | 6,878                     | 5,139.75     | .....                | .....                     | .....        |
| Bark.....               | 1                    | 2,592                     | 3,110.40     | .....                | .....                     | .....        |
| Cable ship.....         | 1                    | 875                       | 1,038.75     | 1                    | 875                       | 1,038.75     |
| Yacht.....              | 1                    | 477                       | 343.44       | .....                | .....                     | .....        |
| Launch.....             | .....                | .....                     | .....        | 1                    | 52                        | 39.00        |
| Totals.....             | 135                  | 594,196                   | 571,161.36   | 93                   | 376,517                   | 361,129.06   |

## VESSELS WITHOUT CARGO.

The number of ships without cargo transiting the Canal, exclusive of warships and other noncargo-carrying vessels, is shown in the following tabulation:

|                    | Atlantic to Pacific. |                           |             | Pacific to Atlantic. |                           |             |
|--------------------|----------------------|---------------------------|-------------|----------------------|---------------------------|-------------|
|                    | No. of ships.        | Panama Canal net tonnage. | Tolls.      | No. of ships.        | Panama Canal net tonnage. | Tolls.      |
| British.....       | 5                    | 28,841                    | \$20,948.31 | 3                    | 16,301                    | \$11,736.72 |
| Mexican.....       | 1                    | 952                       | 685.44      | .....                | .....                     | .....       |
| Spanish.....       | 1                    | 3,437                     | 2,503.44    | .....                | .....                     | .....       |
| United States..... | 3                    | 20,794                    | 15,385.44   | 3                    | 15,680                    | 11,289.60   |
| Totals.....        | 10                   | 54,024                    | 39,522.63   | 6                    | 31,981                    | 23,026.32   |

## NONCOMMERCIAL TRAFFIC.

The following statement shows the tonnage of and amount of cargo carried by vessels transiting the Panama Canal free of tolls during the past month. If tolls had been assessed against these vessels at commercial rates, the amounts paid would have been approximately as indicated.

The statement also shows the number and tonnage of small launches and miscellaneous nonseagoing craft transiting the Canal; these, although paying tolls, are not included in the commercial traffic.

|                               | Atlantic to Pacific. |                           |             | Pacific to Atlantic. |                           |                         |
|-------------------------------|----------------------|---------------------------|-------------|----------------------|---------------------------|-------------------------|
|                               | No. of ships.        | Panama Canal net tonnage. | Tolls.      | No. of ships.        | Panama Canal net tonnage. | Tolls.                  |
| U. S. naval vessels:          |                      |                           |             |                      |                           |                         |
| Battleships.....              | 3                    | <sup>a</sup> 61,825       | \$30,912.50 | 3                    | <sup>a</sup> 61,825       | ( <sup>a</sup> )        |
| Cruisers.....                 | 4                    | <sup>a</sup> 16,665       | 8,332.50    | 3                    | <sup>a</sup> 13,465       | <sup>a</sup> \$3,200.00 |
| Transport.....                | 1                    | <sup>a</sup> 5,212        | 4,885.00    | 1                    | <sup>a</sup> 3,908        | 4,885.00                |
| Tug.....                      | 1                    | <sup>a</sup> 750          | 375.00      | 1                    | <sup>a</sup> 750          | 375.00                  |
| Barge.....                    | 1                    | <sup>a</sup> 1,035        | 517.50      |                      |                           |                         |
| U. S. Army transports.....    | 4                    | <sup>a</sup> 17,057       | 20,335.00   | 1                    | <sup>a</sup> 4,331        | 3,248.25                |
| U. S. Coast Guard cutter..... | 1                    | <sup>a</sup> 192          | 144.00      |                      |                           |                         |
| Launches, etc.....            | 4                    | <sup>a</sup> 10           | 10.20       |                      |                           |                         |
| Totals.....                   | 19                   |                           | 65,511.70   | 9                    |                           | 12,308.25               |

<sup>a</sup> Displacement tonnage. <sup>a</sup> Three battleships and 1 cruiser proceeded only as far as Gatun Lake, then returned to Atlantic seaboard; commercial vessels under similar conditions would be required to pay tolls in one direction only.

<sup>a</sup> Registered net tonnage. <sup>a</sup> Panama Canal net tonnage.

The vessels listed above, as transiting the Canal free of tolls, carried cargo as follows:

|                                |              |
|--------------------------------|--------------|
| Atlantic to Pacific ports..... | Tons. 13,807 |
| Pacific to Atlantic ports..... | 336          |

## STATEMENT OF TERMINAL OPERATIONS.

Details of the business transacted at the Atlantic and Pacific terminals of the Panama Canal during the month of June, 1922, are shown in the following tabulations:

|                                                        | Cristobal. | Balboa.   | Total.    |
|--------------------------------------------------------|------------|-----------|-----------|
| Local cargo arriving..... tons..                       | 16,643     | 19,336    | 35,979    |
| Local cargo shipped..... tons..                        | 2,149      | 396       | 2,545     |
| Transit cargo arriving..... tons..                     | 999,627    | 999,977   | 1,999,604 |
| Transit cargo clearing..... tons..                     | 978,990    | 1,000,386 | 1,979,376 |
| Cargo received for transshipment..... tons..           | 22,331     | 190       | 22,521    |
| Cargo transhipped..... tons..                          | 21,421     | 455       | 21,876    |
| Vessels supplied with bunker coal:                     |            |           |           |
| Commercial, other than Panama Railroad.....            | 37         | 9         | 46        |
| Panama Railroad vessels.....                           | 2          |           | 2         |
| U. S. Army vessels.....                                | 1          | 1         | 2         |
| Total vessels supplied with coal.....                  | 40         | 10        | 50        |
| Coal supplied to above vessels:                        |            |           |           |
| Commercial, other than Panama Railroad..... tons..     | 10,665     | 3,019     | 13,684    |
| Panama Railroad vessels..... tons..                    | 1,099      |           | 1,099     |
| U. S. Army vessels..... tons..                         | 5          | 34        | 39        |
| Total coal supplied to vessels..... tons..             | 11,769     | 3,053     | 14,822    |
| Coal issues, miscellaneous:                            |            |           |           |
| Panama Canal departments..... tons..                   | 166        | 115       | 281       |
| Panama Railroad Company, excepting vessels..... tons.. |            | 12        | 12        |
| U. S. Army, excepting vessels..... tons..              | 819        |           | 819       |
| Individuals and companies..... tons..                  | 296        |           | 296       |
| Total coal issues from Panama Canal deposits:          |            |           |           |
| June, 1922..... tons..                                 | 13,050     | 3,180     | 16,230    |
| May, 1922..... tons..                                  | 11,664     | 3,067     | 14,731    |
| June, 1921..... tons..                                 | 21,225     | 4,306     | 25,531    |
| Coal on hand, July 1, 1922..... tons..                 | 134,260    | 10,947    | 145,207   |
| Coal on hand, June 1, 1922..... tons..                 | 128,208    | 14,127    | 142,335   |
| Coal received during the month..... tons..             | 19,102     |           | 19,102    |



|                                                     | Cristobal. | Balboa. | Total.  |
|-----------------------------------------------------|------------|---------|---------|
| Fuel oil issues:                                    |            |         |         |
| Panama Canal departments.....bbls..                 | 5,583      | 17,644  | 23,227  |
| Panama Railroad Company.....bbls..                  | 305        |         | 305     |
| Army and Navy.....bbls..                            | 1,196      | 161     | 1,357   |
| Individuals and companies.....bbls..                |            | 157     | 157     |
| Total issues and sales.....bbls..                   | 7,084      | 17,962  | 25,046  |
| Fuel oil on hand, July 1, 1922.....bbls..           | 20,415     | 93,356  | 113,771 |
| Fuel oil on hand, June 1, 1922.....bbls..           | 26,345     | 44,928  | 71,273  |
| Fuel oil received during June.....bbls..            |            | 64,904  | 64,904  |
| Taken up on inventory during month.....bbls..       | 1,154      | 1,486   | 2,640   |
| Diesel oil issued during June.....bbls..            | 179        | 8       | 179     |
| Dropped on inventory during month.....bbls..        | 62         |         | 70      |
| Diesel oil on hand, July 1, 1922.....bbls..         | 50,282     | 887     | 51,169  |
| Diesel oil on hand, June 1, 1922.....bbls..         | 50,523     | 895     | 51,418  |
| Oil pumped for individuals and companies.....bbls.. | 334,724    | 86,760  | 421,484 |
| Miscellaneous transfers.....bbls..                  | 5,970      | 4,208   | 10,178  |
| Total oil handled.....bbls..                        | 347,957    | 173,834 | 521,791 |
| Admeasurement certificates:                         |            |         |         |
| U. S. equivalent issued or made.....                | 25         | 7       | 32      |
| Measured for Panama Canal net tonnage.....          | 2          | 3       | 5       |
| Remeasured for Panama Canal net tonnage.....        | 19         | 2       | 21      |
| Panama Canal net tonnage corrected.....             | 15         | 4       | 19      |
| U. S. equivalent tonnage corrected.....             | 15         | 8       | 23      |
| Services of harbor equipment:                       |            |         |         |
| Tugs, total operating hours.....                    | 424        | 211     | 635     |
| Launches, total operating hours.....                | 1,134      | 965     | 2,099   |
| Scows, total operating hours.....                   |            | 63      | 63      |
| Vessels repaired at Panama Canal shops:             |            |         |         |
| Commercial.....                                     | 35         | 18      | 53      |
| Government.....                                     | 5          | 4       | 9       |
| Canal equipment.....                                | 9          | 15      | 24      |
| Vessels dry-docked:                                 |            |         |         |
| Commercial.....                                     | 1          | 2       | 2       |
| Government.....                                     | 1          | 1       | 2       |
| Canal equipment.....                                | 5          |         | 5       |
| Clearances issued.....                              | 124        | 146     | 270     |
| Bills of health issued.....                         | 123        | 147     | 270     |

## ALL VESSELS ENTERING AND CLEARING CANAL PORTS.

The following statement shows the number and tonnage of all vessels entering and clearing the terminal ports of the Canal during June, 1922.

|                                                                | Port of Cristobal. |                   |                 | Port of Balboa. |                   |                 |
|----------------------------------------------------------------|--------------------|-------------------|-----------------|-----------------|-------------------|-----------------|
|                                                                | No. of ships.      | Registered gross. | Registered net. | No. of ships.   | Registered gross. | Registered net. |
| Ships entering.                                                |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting Canal..                | 279                | 1,572,233         | 1,013,255       | 241             | 1,296,201         | 816,079         |
| Vessels entering the port but not transiting Canal.....        | 49                 | 289,379           | 201,700         | 10              | 39,513            | 24,697          |
| Vessels transiting Canal and handling passengers or cargo..... | 55                 | 254,096           | 152,576         | 45              | 188,110           | 113,303         |
| Ships clearing.                                                |                    |                   |                 |                 |                   |                 |
| All vessels, including those transiting Canal..                | 271                | 1,532,672         | 987,582         | 242             | 1,303,836         | 820,753         |
| Vessels entering the port but not transiting Canal.....        | 49                 | 282,468           | 196,173         | 10              | 38,167            | 23,704          |
| Vessels transiting Canal and handling passengers or cargo..... | 51                 | 241,335           | 144,910         | 45              | 188,110           | 113,303         |

## MOVEMENT OF PASSENGERS.

The following statement shows the number of passengers arriving and embarking at Canal ports during the month of June, 1922:

|                                      | At Cristobal. |         |        | At Balboa.   |         |        |
|--------------------------------------|---------------|---------|--------|--------------|---------|--------|
|                                      | First class.  | Others. | Total. | First class. | Others. | Total. |
| Disembarking:                        |               |         |        |              |         |        |
| From Atlantic ports.....             | 729           | 634     | 1,383  | 8            | 4       | 12     |
| From Pacific ports.....              | 177           | 45      | 222    | 239          | 43      | 282    |
| Total disembarking.....              | 906           | 699     | 1,605  | 247          | 47      | 294    |
| Embarking:                           |               |         |        |              |         |        |
| For Atlantic ports.....              | 1,073         | 1,180   | 2,353  | 2            | 12      | 14     |
| For Pacific ports.....               | 173           | 69      | 242    | 54           | 66      | 120    |
| Total embarking.....                 | 1,346         | 1,249   | 2,595  | 56           | 78      | 134    |
| Remaining on board vessels:          |               |         |        |              |         |        |
| From Atlantic to Pacific ports.....  | 779           | 1,274   | 2,053  | 815          | 1,315   | 2,130  |
| From Pacific to Atlantic ports.....  | 664           | 971     | 1,635  | 839          | 1,014   | 1,853  |
| From Atlantic to Atlantic ports..... | 264           | 147     | 411    |              |         |        |
| From Pacific to Pacific ports.....   |               |         |        | 49           | 443     | 492    |
| Total remaining on board.....        | 1,707         | 2,392   | 4,099  | 1,703        | 2,772   | 4,475  |
| Total passengers arriving.....       | 2,613         | 3,091   | 5,704  | 1,950        | 2,819   | 4,769  |
| Total passengers departing.....      | 3,053         | 3,641   | 6,694  | 1,759        | 2,850   | 4,609  |

## COMMISSARY SALES TO VESSELS.

The following is an itemized statement of commissary sales to all vessels during the month of June, 1922:

|                              | Ice.     | Groceries. | Cold storage. | Laundry. | Miscellaneous. | Total.      |
|------------------------------|----------|------------|---------------|----------|----------------|-------------|
| Sales at Cristobal to:       |          |            |               |          |                |             |
| U. S. Government vessels..   | \$261.39 | \$690.25   | \$21,159.20   |          | \$2,610.18     | \$24,721.02 |
| Panama Railroad vessels...   | 67.50    | 1,152.30   | 5,899.14      |          | 933.82         | 8,052.76    |
| Other commercial vessels..   | 911.26   | 2,431.83   | 11,595.19     | \$355.54 | 541.25         | 15,835.07   |
| Total sales, June, 1922..... | 1,240.15 | 4,274.38   | 38,653.53     | 355.54   | 4,085.25       | 48,608.85   |
| Total sales, May, 1922.....  | 1,260.61 | 2,703.03   | 17,167.87     |          | 1,251.01       | 22,382.52   |
| Total sales, June, 1921..... | 3,453.98 | 5,620.98   | 30,140.67     | 5,920.68 | 1,925.54       | 47,070.85   |
| Sales at Balboa to:          |          |            |               |          |                |             |
| U. S. Government vessels..   | 104.92   | 2,076.10   | 6,684.17      |          | 192.29         | 9,057.48    |
| Commercial vessels.....      | 256.89   | 837.51     | 5,560.81      | 1,454.18 | 608.15         | 8,717.54    |
| Total sales, June, 1922..... | 361.81   | 2,913.61   | 12,244.98     | 1,454.18 | 800.44         | 17,775.02   |
| Total sales, May, 1922.....  | 519.56   | 1,656.64   | 6,911.98      | 446.97   | 626.77         | 10,161.92   |
| Total sales, June, 1921..... | 1,065.85 | 12,944.78  | 22,756.14     | 94.09    | 2,546.57       | 39,407.43   |

## LOCK OPERATION.

The following tabulations show the number of lockages, number of vessels passing through the locks, and the consumption of water for lockages, for the month of June, 1922, as compared with the preceding month, and the corresponding month of last year:

## NUMBER OF LOCKAGES.

|                                 | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|---------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                 | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                      | 89          | 127    | 216    | 12             | 15     | 27     | 243          |
| Pedro Miguel.....               | 89          | 131    | 220    | 13             | 20     | 33     | 253          |
| Miraflores.....                 | 90          | 131    | 221    | 14             | 19     | 33     | 254          |
| Total lockages, June, 1922..... | 268         | 389    | 657    | 39             | 54     | 93     | 750          |
| Total lockages, May, 1922.....  | 318         | 387    | 705    | 37             | 31     | 68     | 773          |
| Total lockages, June, 1921..... | 263         | 312    | 575    | 36             | 49     | 85     | 660          |

## NUMBER OF VESSELS PUT THROUGH LOCKS.

|                                | Commercial. |        |        | Noncommercial. |        |        | Grand total. |
|--------------------------------|-------------|--------|--------|----------------|--------|--------|--------------|
|                                | North.      | South. | Total. | North.         | South. | Total. |              |
| Gatun.....                     | 97          | 136    | 233    | 21             | 28     | 49     | 282          |
| Pedro Miguel.....              | 91          | 131    | 222    | 27             | 30     | 57     | 279          |
| Miraflores.....                | 91          | 131    | 222    | 26             | 30     | 56     | 178          |
| Total vessels, June, 1922..... | 279         | 398    | 677    | 74             | 88     | 162    | 839          |
| Total vessels, May, 1922.....  | 334         | 404    | 738    | 62             | 70     | 132    | 870          |
| Total vessels, June, 1921..... | 271         | 326    | 597    | 82             | 119    | 201    | 798          |

## CLASSIFICATION OF NONCOMMERCIAL VESSELS.

|                            | Gatun. | Pedro Miguel. | Miraflores. |
|----------------------------|--------|---------------|-------------|
| Army and Navy vessels..... | 25     | 17            | 21          |
| Canal equipment.....       | 24     | 40            | 35          |

The total consumption of water for lockage, maintenance, and loss in leakage, was as follows:

|                                     | Gatun.             | Pedro Miguel.      | Miraflores.        |
|-------------------------------------|--------------------|--------------------|--------------------|
|                                     | <i>Cubic feet.</i> | <i>Cubic feet.</i> | <i>Cubic feet.</i> |
| Lockages.....                       | 925,450,000        | 844,140,000        | 735,210,000        |
| Leakage.....                        | 20,000,000         | 17,712,000         | 20,000,000         |
| *Total consumption, June, 1922..... | 945,450,000        | 861,852,000        | 755,210,000        |
| Total consumption, May, 1922.....   | 1,005,460,000      | 908,290,000        | 876,700,000        |
| Total consumption, June, 1921.....  | 778,640,000        | 690,620,000        | 754,580,000        |

## METEOROLOGY AND HYDROGRAPHY.

In the following tabulation the meteorological and hydrographic conditions over the Canal Zone and vicinity during the month of June, 1922, are shown in comparative form:

| Rainfall.                                         | June, 1922.     | June, 1921.     | June—Years of record. |                 |                 |
|---------------------------------------------------|-----------------|-----------------|-----------------------|-----------------|-----------------|
|                                                   |                 |                 | Maximum.              | Minimum.        | Mean.           |
|                                                   | <i>Inches.</i>  | <i>Inches.</i>  | <i>Inches.</i>        | <i>Inches.</i>  | <i>Inches.</i>  |
| Total rainfall for month:                         |                 |                 |                       |                 |                 |
| Pacific Section.....                              | 8.14            | 8.29            | 13.26                 | 4.18            | 8.25            |
| Central Section.....                              | 10.53           | 10.69           | 12.48                 | 6.90            | 10.46           |
| Atlantic Section.....                             | 9.88            | 15.52           | 17.49                 | 8.99            | 13.70           |
| Over Gatun Lake watershed.....                    | 10.30           | 13.01           | 15.16                 | 7.89            | 11.38           |
| Over Chagres River watershed above Alhajuela..... | 12.56           | 14.69           | 18.02                 | 7.47            | 13.20           |
| Maximum recorded for month at any one point.....  | 18.79           | 19.67           | 22.00                 |                 |                 |
| Minimum recorded for month at any one point.....  | 4.79            | 4.87            |                       | 2.37            |                 |
| Maximum recorded on any one day.....              | 3.47            | 4.32            | 10.86                 |                 |                 |
| <i>Hydrography.</i>                               |                 |                 |                       |                 |                 |
|                                                   | <i>C. f. s.</i> | <i>C. f. s.</i> | <i>C. f. s.</i>       | <i>C. f. s.</i> | <i>C. f. s.</i> |
| Discharge of Chagres River at Alhajuela.....      | 2,723           | 2,124           | 4,870                 | 1,363           | 2,559           |
| Maximum momentary discharge for month.....        | 16,100          | 13,400          | 170,000               |                 |                 |
| Gatun Lake watershed total yield.....             | 6,203           | 5,665           | 7,895                 | 4,477           | 6,194           |
| Gatun Lake watershed net yield.....               | 5,740           | 5,175           | 7,176                 | 4,081           | 5,699           |
| Draft on Gatun Lake for lockages and power.....   | 2,004           | 2,140           | 2,140                 | 1,138           | 1,774           |

\* Maximum 24-hour rainfall recorded on the Isthmus since American occupation. Recorded at Porto Bello, December 28-29, 1909. † Maximum momentary discharge of record; occurred December 26, 1909. ‡ Not including June, 1914.

## SEISMOLOGY.

Slight seismic tremors were recorded on the 11th and 25th of the month.

## ELECTRICAL DIVISION.

## POWER AND WORK.

The gross output of the Gatun hydroelectric station and of the Miraflores steam plant, the power distributed to consumers, the loss of power in transmission, etc., are shown in the following tabulation:

|                                                                                | June,<br>1922. | May,<br>1922. | June,<br>1921. |
|--------------------------------------------------------------------------------|----------------|---------------|----------------|
| Gross output, K. W. H.:<br>Gatun hydroelectric station .....                   | 4,243,800      | 4,402,100     | 5,294,900      |
| Miraflores steam plant .....                                                   | 2,140          | 630           | 7,750          |
| Power distributed to consumers..... KWH                                        | 3,592,053      | 3,712,543     | 4,404,350      |
| Loss of power in plant auxiliaries, transmission, and transformation..... KWH. | 654,887        | 690,187       | 898,300        |
| Per cent of loss of power to gross output.....                                 | 15.42          | 15.67         | 16.94          |
| Water consumption..... cubic feet.                                             | 3,425,116,580  | 3,535,378,065 | 4,108,884,000  |
| Oil consumption..... barrels.                                                  | 1,980          | 1,925         | 1,990          |

Miscellaneous electrical repairs and installations of electrical equipment were made on 12 vessels during the month. There were 307 work orders issued for work to be performed by the Electrical Division during the month, as compared with 298 for May, 1922.

## SHOP, FOUNDRY, AND DRY DOCK WORK.

During the month miscellaneous repairs were made on 49 vessels at Cristobal and 35 vessels at Balboa. Of these, 7 were placed in dry dock at Cristobal and 3 at Balboa. The more important repair work performed was as follows:

The steamer *Nordfarer* which took a sheer in the Canal and collided with barge No. 137 was placed in dry dock, her stem removed, straightened and replaced, and work well advanced on rebuilding her bow, as well as the renewal of several plates in her hull found deteriorated, and replacing her damaged propeller with a spare. As the vessel was old (built in 1898) it was required that she remove two-thirds of her cargo before it was considered safe to dock her.

Extensive repairs were carried out on the cable ship *Guardian*, the largest job being a complete overhaul of her machinery for paying out and reeling in telegraph cable.

Conversion of the wrecking tug *Favorite* from coal to oil burning was completed during the month. Oil tanks, replacing the coal bunkers, were built as an integral part of her structure of sufficient capacity for 24 days' steaming consumption. The propeller shaft and stern tube, which were built for fresh water cruising, were altered to admit of operation in salt water without deterioration, the condenser was retubed, various repairs made to auxiliary machinery, minor alterations made in living quarters, and the hull structure repaired where required. Dock trials were held on June 27, and on June 29 the vessel left the Balboa plant for routine service.

The alterations and repairs to dredge No. 86 were completed during the month and the dredge returned to service.

The output of the foundry in patterns and castings for the month of June was as follows:

|                 | May, 1922. |           |         | June, 1922. |           |         |
|-----------------|------------|-----------|---------|-------------|-----------|---------|
|                 | Patterns.  | Castings. | Pounds. | Patterns.   | Castings. | Pounds. |
| Iron.....       | 3          | 243       | 9,815   | 7           | 74        | 5,334   |
| Steel.....      | 1          | 14        | 29,246  | 4           | 47        | 26,099  |
| Nonferrous..... | 4          | 326       | 6,069   | 9           | 249       | 3,930   |

The following is a statement of all job and blanket orders issued and completed during the month:

|                     | Uncompleted,<br>June 1. | Authorized<br>in June. | Completed<br>in June. | Uncompleted,<br>June 30. |
|---------------------|-------------------------|------------------------|-----------------------|--------------------------|
| Job orders.....     | 277                     | 372                    | 376                   | 273                      |
| Blanket orders..... | 350                     | 14                     | 17                    | 347                      |

## DREDGING DIVISION.

On June 3 a general movement occurred over East Culebra causing considerable material to move into the basin, and since that date both East and West Culebra



slides have shown intermittent movements. Cucaracha and Barge Repair slides have shown no movement during the month. There was no interference with Canal traffic during the month from slides.

The total excavation for June, including earth and rock, was 296,550 cubic yards, as follows:

| Cubic yards. | Classified as— |        | Character of work. | Stations.                                 | Equipmen         |
|--------------|----------------|--------|--------------------|-------------------------------------------|------------------|
|              | Earth.         | Rock.  |                    |                                           |                  |
|              |                |        |                    | <i>Gaillard Cut.</i>                      |                  |
| 49,200       | 12,300         | 36,900 | Maintenance        | 1647-00 to 1662-25 E.                     | <i>Paraiso.</i>  |
| 53,850       | 24,250         | 29,600 | Maintenance        | 1778-00 to 1788-00 E. (East Culebra)      | <i>Paraiso.</i>  |
| 9,900        | 7,600          | 2,300  | Maintenance        | 1774-70 to 1781-00 E. (East Culebra)      | <i>Gamboa.</i>   |
|              |                |        |                    | <i>Pacific Entrance, Miraflores P. I.</i> |                  |
| 14,300       | 2,300          | 12,000 | Maintenance        | 2089-85 to 2100-50 W.                     | <i>Cascadas.</i> |
|              |                |        |                    | <i>Pacific Entrance.</i>                  |                  |
| 20,300       | 6,300          | 14,000 | Maintenance        | 2120-00 to 2107-00 W.                     | <i>Cascadas.</i> |
| 115,000      | 115,000        |        | Maintenance        | 2144-00 to 2155-00 W.                     | <i>No. 83.</i>   |
| 34,000       | 34,000         |        | Maintenance        | 2139-90 to 2146-50 W.                     | <i>No. 84.</i>   |
| 296,550      | 201,750        | 94,800 |                    |                                           |                  |

The material excavated at the various stations was disposed of as follows:

|                                                  | Cubic yards. |
|--------------------------------------------------|--------------|
| Dumped north of Gamboa                           | 112,950      |
| Dumped on flats, west of Canal, Pacific entrance | 149,000      |
| Dumped at sea, Pacific entrance                  | 34,600       |
| Total                                            | 296,550      |

#### MUNICIPAL ENGINEERING.

The total output of all pumping stations and of the 3 filtration plants, the amount of water consumed by the cities of Panama and Colon, and sales of water to vessels are shown below in comparative form.

|                               | June,<br>1922.  | May,<br>1922.   | June,<br>1921.  |
|-------------------------------|-----------------|-----------------|-----------------|
|                               | <i>Gallons.</i> | <i>Gallons.</i> | <i>Gallons.</i> |
| Pumping stations              | 618,618,000     | 654,853,000     | 703,156,500     |
| Filtration plants             | 363,414,000     | 379,450,000     | 431,750,000     |
| Water consumed by Panama City | 82,009,000      | 85,936,000      | 94,137,000      |
| Water consumed by Colon       | 59,893,500      | 62,468,500      | 57,934,250      |
| Sales of water to vessels     | 9,299,864       | 8,493,096       | 10,039,282      |

#### VITAL STATISTICS.

A total of 145 deaths occurred during the month of June, 1922, among the population of the Canal Zone and the cities of Panama and Colon, which is equivalent to the annual death rate of 14.33 per thousand. The 3 leading causes of death were tuberculosis, pneumonia, and nephritis (acute and chronic); these 3 diseases caused 35 per cent of all deaths from disease. There was 1 death from malaria, 1 from dysentery, and 1 from typhoid fever. Of the total deaths, 48, or 33 per cent, occurred among children under 5 years of age. There were 12 deaths among nonresidents of the Isthmus; these are not included in the above statistics.

There were 295 live births reported during the month, and 19 stillbirths. Including stillbirths, this is equivalent to an annual birth rate of 31.03 per thousand population. Deaths among children under 1 year of age numbered 30, giving an infant mortality rate, based on the number of births reported for June, of 101.69 per thousand live births.

Two hundred and eleven cases of malaria were reported from the Zone and terminal cities during the month, of which 19 were employees, 134 were Army and Navy personnel and 58 nonemployees. These malaria cases originated as follows: Colon, 7; Panama 14; Canal Zone, 190.

No smallpox or other serious epidemic diseases were reported during the month.

#### SCHOOLS.

The school year closed at the end of the month. There were 23 graduates from the high schools, 13 from Balboa and 10 from Cristobal. Of the 77 American teachers, 14 resigned at the end of the school year, and the remaining teachers were granted 92 days leave of absence without pay.

The following brief summary shows the enrollment, average attendance, etc., in the white and colored schools of the Canal Zone for the month of June:

|                                      | White. | Colored. | Total. |
|--------------------------------------|--------|----------|--------|
| Gross enrollment.....                | 2,080  | 1,859    | 3,939  |
| Net enrollment.....                  | 1,897  | 1,809    | 3,706  |
| Average daily attendance.....        | 1,460  | 1,313    | 2,773  |
| Pupils neither absent nor tardy..... | 735    | 506      | 1,241  |
| Number of cases of tardiness.....    | 336    | 29       | 365    |
| Number of teachers.....              | 77     | 32       | 109    |

## OCCUPANTS OF QUARTERS.

Occupants of Panama Canal and Panama Railroad quarters, shown in comparative form, were as follows:

|                         | As of June 30, 1922. |        |           |        | Total occupants. |             |
|-------------------------|----------------------|--------|-----------|--------|------------------|-------------|
|                         | Men.                 | Women. | Children. | Total. | May, 1922.       | June, 1921. |
| Americans.....          | 2,222                | 1,728  | 1,883     | 5,833  | 6,239            | 7,325       |
| Europeans.....          | 92                   | 41     | 92        | 1,225  | 244              | 213         |
| West Indians.....       | 3,936                | 2,592  | 5,650     | 12,178 | 12,142           | 12,602      |
| Totals, June, 1922..... | 6,250                | 4,361  | 7,625     | 18,236 |                  |             |
| Totals, May, 1922.....  | 6,360                | 4,492  | 7,773     |        | 18,625           |             |
| Totals, June, 1921..... | 8,068                | 4,686  | 7,646     |        |                  | 20,340      |

## WORKING FORCE—NUMBER OF EMPLOYEES.

The following tabulation shows the number of gold and silver employees as of June 21, 1922, by departments, together with a comparison of the working force for the preceding month and that of June, 1921:

|                                      | Employees as of June 21, 1922. |         |        | Total employees. |             |
|--------------------------------------|--------------------------------|---------|--------|------------------|-------------|
|                                      | Gold.                          | Silver. | Total. | May, 1922.       | June, 1921. |
| Operation and Maintenance:           |                                |         |        |                  |             |
| Office.....                          | 28                             | 37      | 65     | 85               | 81          |
| Electrical.....                      | 141                            | 152     | 293    | 307              | 413         |
| Municipal Engineering.....           | 71                             | 664     | 735    | 566              | 850         |
| Lock operation.....                  | 163                            | 530     | 693    | 726              | 732         |
| Dredging.....                        | 130                            | 597     | 727    | 723              | 922         |
| Mechanical.....                      | 319                            | 553     | 872    | 871              | 1,645       |
| Marine.....                          | 154                            | 360     | 514    | 518              | 709         |
| Fortifications.....                  | 39                             | 234     | 273    | 295              | 242         |
| Totals.....                          | 1,045                          | 3,127   | 4,172  | 4,091            | 5,594       |
| Supply Department:                   |                                |         |        |                  |             |
| Transportation.....                  | 32                             | 147     | 179    | 170              |             |
| Quartermaster.....                   | 139                            | 897     | 1,036  | 967              | 1,753       |
| Subsistence.....                     | 6                              | 79      | 85     | 81               | 332         |
| Commissary.....                      | 164                            | 742     | 906    | 910              | 1,405       |
| Cattle Industry—Plantations.....     | 6                              | 133     | 139    | 392              | 173         |
| Hotel Washington.....                | 9                              | 83      | 92     | 92               | 91          |
| Totals.....                          | 356                            | 2,081   | 2,437  | 2,612            | 3,754       |
| Accounting Department.....           | 180                            | 7       | 187    | 183              | 235         |
| Health Department.....               | 211                            | 705     | 916    | 942              | 1,093       |
| Executive Department.....            | 499                            | 243     | 742    | 744              | 822         |
| Totals.....                          | 890                            | 955     | 1,845  | 1,869            | 2,150       |
| Panama Railroad:                     |                                |         |        |                  |             |
| Superintendent.....                  | 46                             | 221     | 267    | 255              | 393         |
| Transportation.....                  | 67                             | 99      | 166    | 166              | 219         |
| Receiving and Forwarding Agency..... | 64                             | 625     | 689    | 783              | 753         |
| Coaling Stations.....                | 85                             | 515     | 600    | 496              | 678         |
| Totals.....                          | 262                            | 1,460   | 1,722  | 1,700            | 2,043       |
| Grand totals, June, 1922.....        | 2,553                          | 7,623   | 10,176 |                  |             |
| Grand totals, May, 1922.....         | 2,507                          | 7,715   |        | 10,272           |             |
| Grand totals, June, 1921.....        | 3,506                          | 10,035  |        |                  | 13,541      |

\* The number of employees, as shown above, is the smallest force employed on the Canal since the middle of 1905.

## RECEIPTS AND SALES OF MATERIALS AND SUPPLIES.

The total value of material ordered on United States requisitions and received on the Isthmus during the month, sales to steamships from storehouses, cash sales from stock, etc., are shown below in comparative form:

|                                                                         | June,<br>1922. | May,<br>1922. | June,<br>1921. |
|-------------------------------------------------------------------------|----------------|---------------|----------------|
| Material received on United States requisitions, chargeable as follows: |                |               |                |
| Operation and maintenance.....                                          | \$102,181.89   | \$141,414.67  | \$398,824.99   |
| Construction and equipment.....                                         |                |               | 7,743.71       |
| Miscellaneous.....                                                      | 1,968.85       | 1,642.87      | 18,099.09      |
| Totals.....                                                             | 104,150.84     | 143,057.54    | 424,667.79     |
| Cash sales on the Isthmus:                                              |                |               |                |
| Stock.....                                                              | 21,233.14      | 20,772.75     | 29,560.31      |
| Fuel oil.....                                                           | 1,187.98       | 305.85        | 66.47          |
| Scrap.....                                                              | 613.26         | 769.24        | 609.39         |
| Obsolete and second-hand material.....                                  | 2,656.92       | 3,528.02      | 3,756.51       |
| Totals.....                                                             | 25,691.30      | 25,375.66     | 33,992.68      |
| Sales to steamships from storehouses.....                               | 7,228.41       | 6,007.31      | 13,361.82      |

Respectfully,

JAY J. MORROW,

Governor.

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended July 22:

Steamship *Eclipse*, calk leaky rivets and seams in domestic tank, above starboard boiler.

#### PREVIOUSLY REPORTED.

Dredge *Paraiso*, work for widening hull is going along; in addition, miscellaneous running repairs to hull and engines.

The following vessels were at the Cristobal shops for repairs during the week ended July 24:

Steamships *Conde de Churruca*, manufacture studs and spring washers; *La Navarre*, repair copper pipes; manufacture 2 nuts and bolts as sample, also 1 valve stem and valve; subchasers *Nos. 1 and 2*, dock, clean, and scrape bottom; repair copper sheathing; remove propellers, tail shaft, struts, strainers, and plug all holes below water line and cover with copper sheathing; cut out bulkheads as directed; steamships *Roman Star*, remove salt from back connections and tubes of boiler; weld 8 feet of calking edge and 19 stay bolts in center furnace; weld 1 staybolt in inboard furnace and calk staybolts; calk 4 staybolts in outboard furnace; test boiler and make repairs that develop; renew pipe from sea inlet; manufacture 2 piston rings for ballast pump; *Palena*, electric weld boiler; *Turrialba*, repair sanitary pipe in fireroom; *Ansaldo San Giorgio I*, remove loose rivets below water line and install patch bolts; *General W. C. Gorgas*, bore out spur gear and fit to winch shaft.

### Notice to Mariners.—Menace to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., July 19, 1922.

From U. S. S. *Sciota*, July 18, 3 p. m.:

Latitude 7° 7' 15" North, Longitude 81° 2' 8" West, passed a log 12 feet long and 16 inches in diameter. Menace to navigation.

JAY J. MORROW,

Governor.

### Postal and Cable Addresses of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pancanal, Panama;" in the United States, "Pancanal, Washington."

# MOVEMENTS OF OCEAN VESSELS. *Week ending at midnight, July 22, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.              | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                              | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.             |        | Panama Canal tonnage. |       |
|--------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------------------------------|---------|-------|-------------------|---------------|----------------|--------------------|--------|-----------------------|-------|
|                    | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                    |         |       |                   |               |                | Nature.            | Tons.  | Gross.                | Net.  |
| Norman Mon-arch    | 16               | 6 00  | 16             | 6 35  | 16                 | 14 09 | 16               | 15 18 | British      | Monarch Steamship Line.            | 400 0   | 52 0  | 17 6              | Norfolk.      | Antofagasta.   | Ballast.           | 5,568  | 4,146                 |       |
| Santa Rosa.        | 16               | 12 30 | 16             | 12 15 | 16                 | 18 46 | 16               | 19 36 | American     | Grace Line.                        | 404 0   | 53 0  | 28 9              | New York.     | Los Angeles.   | Spirits, wine, etc | 8,260  | 6,754                 | 4,780 |
| Mississippi.       | 16               | 5 40  | 17             | 6 05  | 17                 | 14 32 | 17               | 16 50 | French       | French Line.                       | 410 0   | 52 0  | 16 6              | Bordeaux.     | San Francisco. |                    | 800    | 6,942                 | 5,001 |
| Senia              | 17               | 6 18  | 17             | 6 18  | 17                 | 14 32 | 17               | 23 10 | American     | U. S. Navy.                        |         |       |                   | Cristobal.    | Acapulco.      | General coal.      | 2,177  | 2,844                 | 1,748 |
| Alvarado           | 17               | 4 05  | 18             | 6 19  | 18                 | 14 11 | 18               | 16 45 | British      | McAndrews & Co.                    | 303 0   | 43 0  | 18 3              | New York.     | Guayaquil.     | Ballast.           | 11,224 | 7,860                 |       |
| W. S. Rheem.       | 17               | 17 14 | 18             | 7 30  | 18                 | 15 01 | 18               | 16 15 | American     | Standard Oil Co.                   | 500 0   | 68 0  | 23 6              | London.       | San Francisco. | Fuel oil.          | 5,058  | 4,336                 | 3,161 |
| Trophon            | 18               | 8 55  | 18             | 9 10  | 18                 | 16 24 | 20               | 19 48 | British      | Anglo-Saxon Petroleum Co.          | 350 8   | 48 1  | 23 0              | Tampico.      | Bahoa.         | Petroleum.         | 7,788  | 7,653                 | 5,222 |
| Baron Ogilvy       | 18               | 9 05  | 18             | 11 25 | 18                 | 18 11 | 18               | 19 20 | British      | H. Hogarth & Sons                  | 451 4   | 58 2  | 26 5              | Port Arthur.  | Shanghai.      | General sugar.     | 4,702  | 4,369                 | 3,180 |
| Dieto              | 18               | 6 40  | 18             | 12 20 | 18                 | 19 42 | 18               | 19 12 | Norwegian.   | B. Stolt Nielsen & Co.             | 341 2   | 48 3  | 23 5              | Philadelphia. | Vancouver.     | General.           | 9,765  | 8,203                 | 6,080 |
| Edipse.            | 14               | 4 00  | 19             | 6 25  | 19                 | 14 04 | 22               | 15 35 | American     | Barber Line (S. B.).               | 440 0   | 56 0  | 30 7              | New York.     | Olaru.         | General.           | 3,300  | 10,777                | 8,130 |
| Port Adelaide.     | 18               | 22 55 | 19             | 7 40  | 19                 | 15 06 | 19               | 16 11 | British      | Commonwealth and Dom. Line.        | 481 2   | 62 3  | 23 0              | New York.     | Brisbane.      | General.           | 4,273  | 6,039                 | 4,180 |
| Hawaiian           | 19               | 4 35  | 19             | 8 08  | 19                 | 15 58 | 19               | 17 00 | American     | American-Hawaiian Line.            | 406 8   | 51 1  | 22 0              | Philadelphia. | Portland.      | General.           | 12,641 | 8,559                 |       |
| City of Hono-lulu. | 19               | 5 36  | 19             | 10 22 | 19                 | 19 32 | 19               | 21 07 | American     | N. Atl. & West. S. S. Co. (S. B.). | 523 0   | 60 1  | 23 0              | New York.     | Los Angeles.   | Ballast.           | 7,500  | 7,581                 | 5,519 |
| Melville Dollar.   | 19               | 7 27  | 19             | 12 00 | 19                 | 20 21 | 19               | 21 54 | American     | Dollar Line.                       | 429 0   | 55 2  | 27 5              | Philadelphia. | Vancouver.     | General.           | 339    | 4,803                 | 2,931 |
| Urubamba.          | 14               | 16 30 | 19             | 12 09 | 19                 | 21 15 | 19               | 22 52 | Peruvian     | Peruvian Line.                     | 381 2   | 48 1  | 18 3              | Cristobal.    | Callao.        | General.           | 5,093  | 10,116                | 7,680 |
| M. S. Dollar.      | 19               | 6 20  | 19             | 13 15 | 19                 | 22 02 | 19               | 23 45 | British      | Dollar Line.                       | 475 5   | 61 0  | 22 0              | New York.     | San Francisco. | General.           | 2,550  | 2,979                 | 2,422 |
| Hippocampus.       | 15               | 6 37  | 20             | 5 45  | 20                 | 13 00 | 23               | 16 43 | American     | A. E. Loomis.                      | 28 0    | 9 10  | 5 0               | Cristobal.    | Bahoa.         | Ballast.           | 863    | 1,187                 | 622   |
| Mount Baker        | 15               | 6 37  | 20             | 5 45  | 20                 | 14 07 | 20               | 15 30 | American     | Frank B. Paterson.                 | 285 0   | 44 8  | 19 6              | Mobile.       | Los Angeles.   | General.           | 5,000  | 8,508                 | 6,179 |
| Chattanooga        | 19               | 17 10 | 20             | 7 00  | 20                 | 14 50 | 20               | 15 55 | American     | U. S. Steel Products Co.           | 424 2   | 56 2  | 25 5              | Baltimore.    | Seattle.       | General.           | 8,528  | 7,611                 | 5,450 |
| City               | 20               | 8 40  | 20             | 9 00  | 20                 | 17 07 | 20               | 18 10 | American     | Standard Transportation Co.        | 468 3   | 63 7  | 27 0              | Baltimore.    | Hongkong.      | Fuel               | 11,248 | 9,841                 | 6,946 |
| Empire Arrow.      | 19               | 7 30  | 20             | 12 37 | 20                 | 18 13 | 21               | 13 40 | American     | Grace Line.                        | 360 2   | 51 2  | 22 0              | Baltimore.    | San Francisco. | General.           | 2,200  | 3,776                 | 4,081 |
| Santa Ana          | 19               | 7 30  | 20             | 12 37 | 20                 | 18 13 | 21               | 13 40 | British      | Pacific Steam Navigation Co.       | 220 0   | 34 0  | 13 0              | Cristobal.    | Champerico.    | General.           | 863    | 1,187                 | 622   |
| Manatita           | 14               | 21 34 | 21             | 6 22  | 20                 | 13 51 | 21               | 16 50 | British      | Pacific Steam Navigation Co.       |         |       |                   |               |                |                    |        |                       |       |
| F. J. Lucken-bach  | 20               | 19 05 | 21             | 7 37  | 21                 | 14 56 | 21               | 16 09 | American     | Luckenbach Line.                   | 445 0   | 56 0  | 26 0              | Philadelphia. | Los Angeles.   | General.           | 5,000  | 8,508                 | 6,179 |
| Lockhartine.       | 21               | 7 27  | 22             | 6 20  | 22                 | 13 55 | 22               | 15 35 | British      | Pacific Steam Navigation Co.       | 485 4   | 62 3  | 22 8              | London.       | Vancouver.     | General.           | 4,153  | 10,802                | 7,356 |
| Varg               | 22               | 1 53  | 22             | 7 17  | 22                 | 14 52 | 22               | 16 10 | Norwegian.   | Peter Hansen.                      | 231 7   | 35 1  | 15 6              | New York.     | Callao.        | General.           | 1,083  | 1,496                 | 1,046 |
| Chickasaw City     | 22               | 1 53  | 22             | 7 50  | 22                 | 15 33 | 23               | 1 30  | American     | U. S. Steel Products Co.           | 395 5   | 55 0  | 27 2              | Philadelphia. | Yokohama.      | General.           | 8,150  | 6,841                 | 4,686 |
| Canadian           | 22               | 6 00  | 22             | 8 50  | 22                 | 16 28 | 22               | 17 35 | British      | Canadian Government.               | 400 0   | 52 4  | 19 2              | Montreal.     | Auckland.      | General.           | 5,911  | 5,956                 | 4,160 |
| Victor             | 22               | 6 15  | 22             | 9 32  | 22                 | 17 25 | 22               | 18 25 | British      | Ellerman & Bucknall Line.          | 401 1   | 50 0  | 21 0              | New York.     | Auckland.      | General.           | 5,165  | 5,673                 | 4,153 |
| Bloomington.       | 22               | 6 45  | 22             | 10 30 | 22                 | 18 17 | 22               | 21 25 | American     | N. Atl. & West. S. S. Co.          | 381 0   | 49 9  | 23 0              | Baltimore.    | Los Angeles.   | Structural steel.  | 3,592  | 5,825                 | 4,152 |
| Wabash             | 22               | 6 45  | 22             | 11 18 | 22                 | 19 25 | 22               | 20 50 | British      | Sheridan Steamship Co.             | 440 8   | 56 0  | 26 6              | Tampico.      | Antofagasta.   | Fuel oil.          | 9,490  | 7,693                 | 4,822 |
| Toco.              | 21               | 22 54 | 22             | 12 05 | 22                 | 20 04 | 22               | 21 25 | British      | Prince Line, Ltd.                  | 448 5   | 57 2  | 30 3              | New York.     | Yokohama.      | General.           | 8,300  | 9,139                 | 6,759 |

\* Motor ship.

\* Launch.



## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                           |    |    |    |    |    |    |    |    |    |          |       |          |            |                                |       |         |           |                             |              |                    |        |        |       |
|---------------------------|----|----|----|----|----|----|----|----|----|----------|-------|----------|------------|--------------------------------|-------|---------|-----------|-----------------------------|--------------|--------------------|--------|--------|-------|
| Eric Maru                 | 15 | 18 | 50 | 16 | 6  | 56 | 16 | 14 | 18 | 16       | 14    | 18       | Japanese   | Kawasaki Kisen Kaisha          | 400.0 | 53.0    | 25.6      | Vancouver                   | Norfolk      | Wheat              | 7,066  | 5,977  | 4,305 |
| Birmingham                | 7  | 10 | 20 | 16 | 8  | 36 | 16 | 16 | 20 | 9        | 04    | American | U. S. Navy | 420.0                          | 47.0  | 19.8    | Balboa    | Cartagena                   | General      | (5)                |        |        |       |
| Nitro                     | 14 | 6  | 30 | 16 | 10 | 17 | 16 | 16 | 32 | 16       | 16    | 32       | American   | U. S. Navy                     | 439.8 | 61.6    | 19.0      | San Diego                   | Hampton R'ds | General, lumber    | 1,000  | 8,426  | 5,270 |
| Ruahine                   | 15 | 19 | 20 | 16 | 11 | 25 | 16 | 18 | 05 | 16       | 18    | 05       | British    | New Zealand Shipping Co.       | 480.6 | 60.3    | 24.10     | Wellington                  | London       | Cold storage       | 5,242  | 11,027 | 8,188 |
| Californian               | 16 | 9  | 35 | 16 | 14 | 30 | 16 | 22 | 08 | American | 12.08 | American | 445.1      | 59.8                           | 29.6  | Seattle | Liverpool | General                     | 9,700        | 8,567              | 6,620  |        |       |
| Vancouver                 | 16 | 15 | 20 | 17 | 6  | 58 | 17 | 14 | 12 | 17       | 14    | 12       | Japanese   | Kawasaki Kisen Kaisha          | 385.0 | 51.0    | 26.6      | Tacoma                      | Norfolk      | Wheat              | 7,596  | 5,919  | 4,389 |
| Mundella                  | 16 | 17 | 45 | 17 | 8  | 09 | 17 | 15 | 50 | 17       | 23    | 35       | American   | Munson Line                    | 370.0 | 53.2    | 23.8      | Grays Harbor                | New York     | Lumber             | 5,000  | 5,665  | 4,297 |
| Julia Luckenbach          | 17 | 16 | 10 | 17 | 8  | 20 | 17 | 15 | 47 | 17       | 15    | 47       | American   | Luckenbach Line                | 436.0 | 57.0    | 26.0      | Seattle                     | New York     | General, lumber    | 5,735  | 8,543  | 6,402 |
| Oregon Maru               | 17 | 2  | 30 | 17 | 9  | 21 | 17 | 18 | 30 | 18       | 19    | 30       | Japanese   | Kawasaki Kisen Kaisha          | 385.0 | 51.0    | 26.0      | Portland                    | Christobal   | Wheat              | 7,083  | 6,251  | 4,700 |
| Potosi                    | 17 | 6  | 00 | 17 | 9  | 50 | 17 | 18 | 10 | 17       | 19    | 05       | British    | Pacific Steam Navigation Co.   | 381.0 | 49.0    | 23.7      | Colonel                     | Portland     | General            | 4,578  | 5,559  | 4,201 |
| Meiwe Maru                | 17 | 6  | 54 | 17 | 10 | 45 | 17 | 19 | 36 | 18       | 12    | 34       | Japanese   | Melijo Kisen Kaisha            | 445.0 | 48.0    | 23.3      | Portland                    | Hampton R'ds | Wheat              | 9,573  | 8,299  | 5,979 |
| Singapore Maru            | 17 | 8  | 00 | 17 | 11 | 27 | 17 | 20 | 35 | 17       | 21    | 38       | Japanese   | Kawasaki Kisen Kaisha          | 385.0 | 51.0    | 26.0      | Portland                    | Norfolk      | Wheat              | 7,616  | 5,614  | 4,389 |
| Santa Estalita            | 17 | 10 | 50 | 17 | 12 | 50 | 17 | 21 | 55 | 18       | 6     | 00       | American   | American and Cuban S. S. Co.   | 251.0 | 43.6    | 17.0      | San Luis                    | Halifax      | Celtic             | 1,137  | 2,823  | 1,730 |
| Canadian Con-<br>structor | 17 | 15 | 00 | 18 | 6  | 59 | 18 | 14 | 50 | 18       | 21    | 55       | British    | Canadian Government            | 430.0 | 56.2    | 19.6      | Brisbane                    | Montreal     | General            | 1,500  | 7,080  | 5,494 |
| West Jeffrey              | 17 | 20 | 50 | 18 | 10 | 13 | 18 | 18 | 32 | 18       | 22    | 10       | American   | U. S. Shipping Board           | 489.8 | 54.2    | 24.3      | Valparaiso                  | New York     | Nitrate            | 8,058  | 6,589  | 4,809 |
| Steel Inventor            | 18 | 9  | 30 | 18 | 11 | 00 | 18 | 18 | 36 | 19       | 12    | 20       | American   | U. S. Steel Products Co.       | 424.2 | 56.2    | 23.6      | New Westmin-<br>ster, B. C. | New York     | General, lumber    | 6,800  | 7,611  | 5,450 |
| Montgomery                | 18 | 9  | 20 | 18 | 11 | 52 | 18 | 20 | 30 | 20       | 9     | 55       | American   | Isthmian Steamship Lines       | 424.2 | 56.2    | 25.10     | Seattle                     | London       | General            | 8,047  | 7,611  | 5,450 |
| Iowan                     | 18 | 15 | 20 | 19 | 6  | 45 | 19 | 14 | 40 | 20       | 12    | 20       | American   | American-Hawaiian Line         | 407.7 | 53.7    | 26.1      | Seattle                     | Hamburg      | General            | 6,700  | 7,091  | 5,002 |
| Italia                    | 18 | 17 | 00 | 19 | 7  | 42 | 19 | 15 | 45 | 19       | 15    | 45       | Swedish    | Swedish Lloyds                 | 233.0 | 41.0    | 18.3      | Taitai                      | New Orleans  | Nitrate            | 2,708  | 2,381  | 1,458 |
| Santa Veronika            | 18 | 23 | 42 | 19 | 7  | 56 | 19 | 16 | 30 | 19       | 22    | 10       | American   | American and Cuban S. S. Co.   | 251.0 | 43.6    | 19.0      | Marshfield                  | New York     | Lumber             | 2,000  | 2,823  | 1,740 |
| Errene Ariadne            | 19 | 6  | 30 | 19 | 9  | 44 | 19 | 17 | 30 | 19       | 19    | 50       | British    | Rodenmachi & Sons              | 348.5 | 50.1    | 21.0      | Portland                    | Rotterdam    | Wheat              | 5,700  | 4,113  | 3,088 |
| Marore                    | 19 | 10 | 15 | 19 | 10 | 58 | 19 | 19 | 52 | 19       | 19    | 52       | American   | Ore Steamship Corp.            | 550.3 | 72.2    | 33.0      | Cruz Grande                 | New York     | Iron ore           | 20,000 | 15,551 | 4,297 |
| Eastern Mer-<br>chant     | 20 | 1  | 00 | 20 | 8  | 01 | 20 | 14 | 51 | 20       | 14    | 51       | American   | Luckenbach Line                | 445.0 | 58.0    | 25.6      | Genoa Bay                   | New York     | General            | 8,000  | 8,617  | 6,297 |
| Lord Sefon                | 20 | 8  | 20 | 20 | 9  | 48 | 20 | 18 | 50 | 20       | 20    | 48       | British    | Universal Steam Navigation Co. | 374.0 | 48.0    | 24.0      | Makatea Isl.                | Algiers      | Phosphates         | 6,900  | 4,631  | 3,434 |
| Charles H.<br>Cramp       | 20 | 9  | 15 | 20 | 10 | 38 | 20 | 17 | 54 | 21       | 12    | 35       | American   | U. S. Shipping Board           | 404.6 | 54.0    | 25.0      | Seattle                     | Baltimore    | General            | 5,900  | 6,755  | 4,750 |
| Matomo                    | 20 | 10 | 30 | 20 | 12 | 42 | 20 | 19 | 55 | 20       | 22    | 15       | British    | Ellerman & Bucknell            | 400.0 | 52.0    | 25.6      | San Francisco               | United King  | General            | 6,720  | 5,672  | 4,042 |
| Metheola                  | 20 | 5  | 35 | 21 | 6  | 52 | 21 | 13 | 55 | 21       | 22    | 15       | American   | Grace Line                     | 209.6 | 40.0    | 16.8      | Paita                       | New York     | General            | 1,583  | 2,835  | 1,805 |
| Edgemoor                  | 20 | 15 | 00 | 21 | 8  | 02 | 21 | 15 | 27 | 21       | 15    | 47       | American   | U. S. Army                     | 409.6 | 54.2    | 16.5      | Honolulu                    | New York     | Ballast            | 7,126  | 5,210  | 3,756 |
| Havvo                     | 20 | 18 | 15 | 21 | 8  | 55 | 21 | 16 | 42 | 21       | 17    | 30       | Norwegian  | Henrik Ostervold               | 385.0 | 51.5    | 23.0      | Portland                    | Norfolk      | Wheat              | 7,126  | 5,210  | 3,756 |
| Laurel Branch             | 20 | 19 | 25 | 21 | 9  | 44 | 21 | 17 | 56 | 21       | 17    | 56       | British    | F. and W. Risdon               | 360.2 | 46.0    | 22.6      | Talcahuano                  | Liverpool    | General            | 5,199  | 7,189  | 5,698 |
| West Greylock             | 21 | 11 | 30 | 21 | 12 | 12 | 21 | 19 | 25 | 22       | 12    | 45       | American   | U. S. Shipping Board           | 430.1 | 54.3    | 28.0      | Manila                      | New York     | Sugar              | 9,500  | 7,046  | 5,670 |
| Romanstar                 | 21 | 13 | 10 | 21 | 14 | 24 | 21 | 23 | 05 | 22       | 15    | 43       | British    | Blue Star Line                 | 420.0 | 54.0    | 24.0      | Hankow                      | New York     | Cold storage, gen. | 5,250  | 7,433  | 5,870 |
| San Francisco             | 21 | 18 | 40 | 22 | 7  | 02 | 22 | 14 | 50 | 22       | 15    | 43       | Swedish    | Johnson Line                   | 359.0 | 52.0    | 24.8      | San Diego                   | Stockholm    | General            | 5,960  | 5,238  | 4,019 |
| Palena                    | 21 | 15 | 30 | 22 | 7  | 58 | 22 | 15 | 07 | 22       | 15    | 57       | Chilean    | Chilean Line                   | 350.0 | 42.0    | 23.7      | Talcahuano                  | Christobal   | General            | 3,119  | 3,060  | 2,577 |
| Moedijk                   | 22 | 7  | 00 | 22 | 8  | 30 | 22 | 16 | 55 | 22       | 22    | 15       | Dutch      | Holland-American Line          | 472.8 | 61.0    | 24.6      | Vancouver                   | Antwerp      | General            | 9,450  | 9,163  | 7,067 |
| West Notus                | 22 | 11 | 20 | 22 | 12 | 01 | 22 | 19 | 10 | 22       | 23    | 16       | American   | U. S. Shipping Board           | 410.0 | 54.3    | 20.6      | San Francisco               | Buenos Aires | General            | 2,656  | 6,583  | 4,914 |

s 4,400 tons displacement.

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

\* For orders.

\* U. S. Army transport.

## MOVEMENTS OF OCEAN VESSELS.—Continued.

PORT OF CRISTOBAL.

| *ARRIVALS.      |                  |                       |                             | *DEPARTURES. |                   |                                 |                                  |
|-----------------|------------------|-----------------------|-----------------------------|--------------|-------------------|---------------------------------|----------------------------------|
| Date.           | Vessel.          | Line.                 | From—                       | Date.        | Vessel.           | Line.                           | For—                             |
| July 16.        | Shenandoah       | The Texas Co.         | Puerto Lobos.               | July 16.     | Litopa            | Anglo-Saxon Petroleum Co.       | Tampico.                         |
| July 16.        | Abangarez        | United Fruit Co.      | New Orleans via Habana.     | July 16.     | Ulua              | United Fruit Co.                | New York via Habana.             |
| July 16.        | Ulua             | United Fruit Co.      | Port Limon.                 | July 16.     | Eupatoria         | Hamburg-American Line.          | Port Limon.                      |
| July 17.        | Tolosa           | United Fruit Co.      | New York via Habana.        | July 17.     | Oscar D. Bennett. | Pan-American Pet. & Transp. Co. | Tampico.                         |
| July 18.        | La Navarre.      | French Line.          | Havre via wayports.         | July 17.     | Abangarez         | United Fruit Co.                | Bocas del Toro.                  |
| July 18.        | Parismina.       | United Fruit Co.      | New Orleans via Port Limon. | July 19.     | Shenandoah.       | The Texas Co.                   | Puerto Lobos.                    |
| July 19.        | Cantigny.        | U. S. Army.           | New York via San Juan.      | July 19.     | Colon.            | Panama Railroad Steamship Line. | New York via Haiti.              |
| July 19.        | Tivives.         | United Fruit Co.      | New York via Kingston.      | July 19.     | Tolosa.           | United Fruit Co.                | New York via Habana.             |
| July 19.        | Camden.          | United Fruit Co.      | Tampico.                    | July 19.     | Parismina.        | United Fruit Co.                | New Orleans via Tela and Habana. |
| July 20.        | Berlin.          | T. Nielsen.           | Colombian ports.            | July 20.     | Tivives.          | United Fruit Co.                | Colombian ports.                 |
| July 20.        | Abangarez.       | United Fruit Co.      | Montreal via wayports.      | July 20.     | Carrillo.         | United Fruit Co.                | New York via Kingston.           |
| July 21.        | Camden.          | United Fruit Co.      | Bocas del Toro.             | July 20.     | Abangarez.        | United Fruit Co.                | New Orleans.                     |
| July 22.        | Camito.          | U. S. Army.           | Port Limon.                 | July 21.     | Camden.           | United Fruit Co.                | Tampico.                         |
| July 22.        |                  | Elders & Fyffes, Ltd. |                             | July 22.     | Cantigny.         | U. S. Army.                     | New York.                        |
| July 22.        |                  |                       |                             | July 22.     | La Navarre.       | French Line.                    | Puerto Colombia.                 |
| July 22.        |                  |                       |                             | July 22.     | Camito.           | Elders & Fyffes, Ltd.           | Kingston.                        |
| PORT OF BALBOA. |                  |                       |                             |              |                   |                                 |                                  |
| July 17.        | Baja California. | O. L. Lindvig.        | Seattle.                    | July 18.     | Baja California.  | O. L. Lindvig.                  | Talara.                          |
| July 20.        | Sinaloa.         | O. L. Lindvig.        | Talara.                     |              |                   |                                 |                                  |

\*Other than ships passing through the Canal.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Cristobal for Week Ending July 22, 1922.

| Name of vessel.  | Line or charterer.                  | Arrived. | Departed.    | Cargo—           |                  |
|------------------|-------------------------------------|----------|--------------|------------------|------------------|
|                  |                                     |          |              | Discharged       | Laded.           |
|                  |                                     |          |              | Tons.            | Tons.            |
| Ulua.....        | United Fruit Co.....                | July 16. | July 16..... | 21               | ( <sup>2</sup> ) |
| Mississippi..... | French Line.....                    | July 16. | July 17..... | 561              | 150              |
| Abangarez.....   | United Fruit Co.....                | July 16. | July 17..... | ( <sup>1</sup> ) | 61               |
| Shenandoah.....  | The Texas Co.....                   | July 16. | July 19..... | 9,000            | ( <sup>2</sup> ) |
| Alvarado.....    | Pacific Steam Navigation Co.....    | July 17. | July 18..... | 128              | 253              |
| Tolosa.....      | United Fruit Co.....                | July 18. | July 19..... | 364              | 181              |
| Colon.....       | Panama Railroad Steamship Line..... |          | July 19..... |                  | 1,931            |
| Urubamba.....    | Peruvian Line.....                  |          | July 19..... |                  | 339              |
| La Navarre.....  | French Line.....                    | July 18. | July 22..... | 124              | 2                |
| Parismina.....   | United Fruit Co.....                | July 18. | July 20..... | 759              |                  |
| Camden.....      | United Fruit Co.....                | July 19. | July 20..... | 8,870            | ( <sup>2</sup> ) |
| Carrillo.....    | United Fruit Co.....                | July 19. | July 20..... | ( <sup>1</sup> ) | $\frac{1}{2}$    |
| Tivives.....     | United Fruit Co.....                | July 19. | July 20..... | 62               | 49               |
| Santa Ana.....   | Pacific Mail Steamship Co.....      | July 19. | July 20..... | 198              | 282              |
| Abangarez.....   | United Fruit Co.....                | July 20. | July 20..... | ( <sup>1</sup> ) | 86               |
| Mineola.....     | Grace Line.....                     | July 21. | July 21..... | 67               | ( <sup>2</sup> ) |
| Loekkatrine..... | Pacific Steam Navigation Co.....    | July 21. | July 22..... | 109              | 383              |
| Jamaica.....     | Pacific Steam Navigation Co.....    |          | July 21..... |                  | 780              |
| Palena.....      | Chilean Line.....                   | July 22. |              | 919              |                  |
| Essequibo.....   | Pacific Steam Navigation Co.....    | July 22. |              | 280              |                  |
| Camito.....      | Elders & Fyffes, Ltd.....           | July 22. | July 22..... | 15               | ( <sup>2</sup> ) |

\* No cargo discharged.

\* No cargo laded.

### Report of Cargo Discharged and Laded by Vessels Entering and Clearing from Port of Balboa for Two Weeks Ending July 22, 1922.

| Name of vessel.      | Line or charterer.                   | Arrived.     | Departed.    | Cargo—     |        |
|----------------------|--------------------------------------|--------------|--------------|------------|--------|
|                      |                                      |              |              | Discharged | Laded. |
|                      |                                      |              |              | Tons.      | Tons.  |
| Lake Fisher.....     | U. S. Shipping Board.....            | July 9.....  | July 9.....  | 95         |        |
| Acajutla.....        | Pacific Steam Navigation Co.....     | July 9.....  | July 9.....  |            | 7      |
| Laura C. Hall.....   | Pacific Metals Transp. Co., Ltd..... | July 10..... | July 13..... | 11         | 62     |
| Ecuador.....         | Pacific Mail Steamship Co.....       | July 11..... | July 12..... | 30         | 1      |
| Manavi.....          | Pacific Steam Navigation Co.....     | July 13..... | July 13..... | 11         |        |
| Delrosa.....         | U. S. Shipping Board.....            | July 13..... | July 14..... | 208        |        |
| Baja California..... | A. O. Lindvig.....                   | July 17..... | July 18..... | 70         |        |
| Alvarado.....        | Pacific Steam Navigation Co.....     | July 18..... | July 18..... |            | 6      |
| Trophon.....         | Anglo-Saxon Petroleum Co.....        | July 18..... | July 20..... | 5,058      |        |
| Santa Ana.....       | Pacific Mail Steamship Co.....       | July 20..... | July 21..... | 2,099      | 12     |
| Mineola.....         | Grace Line.....                      | July 20..... | July 21..... | 150        |        |
| Jamaica.....         | Pacific Steam Navigation Co.....     | July 21..... | July 21..... |            | 2      |
| Palena.....          | South American Line.....             | July 21..... | July 22..... | 55         |        |
| Seijo Maru.....      | Toyo Kisen Kaisha.....               | July 22..... |              | 1,047      |        |

### Narcotic Drugs Import and Export Act.

The following is the text of the Narcotic Drugs Import and Export Act of the Congress of the United States. It applies to the Canal Zone.

[PUBLIC No. 227—67TH CONGRESS.] [H. R. 2193.]

AN ACT To amend the Act entitled "An Act to prohibit the importation and use of opium for other than medicinal purposes," approved February 9, 1909, as amended.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That sections 1 and 2 of the Act entitled "An Act to prohibit the importation and the use of opium for other than medicinal purposes," approved February 9, 1909, as amended, are amended to read as follows:

"That when used in this Act:

"(a) The term 'narcotic drug' means opium, coca leaves, cocaine, or any salt, derivative, or preparation of opium, coca leaves, or cocaine;

"(b) The term 'United States,' when used in a geographical sense, includes the several States and Territories, and the District of Columbia;

"(c) The term 'board' means the Federal Narcotics Control Board established by section 2 of this Act; and



"(d) The term 'person' means individual, partnership, corporation, or association. "SEC. 2. (a) That there is hereby established a board to be known as the 'Federal Narcotics Control Board' and to be composed of the Secretary of State, the Secretary of the Treasury, and the Secretary of Commerce. Except as otherwise provided in this Act or by other law, the administration of this Act is vested in the Department of the Treasury.

"(b) That it is unlawful to import or bring any narcotic drug into the United States or any territory under its control or jurisdiction; except that such amounts of crude opium and coca leaves as the board finds to be necessary to provide for medical and legitimate uses only, may be imported and brought into the United States or such territory under such regulations as the board shall prescribe. All narcotic drugs imported under such regulations shall be subject to the duties which are now or may hereafter be imposed upon such drugs when imported.

"(c) That if any person fraudulently or knowingly imports or brings any narcotic drug into the United States or any territory under its control or jurisdiction, contrary to law, or assists in so doing, or receives, conceals, buys, sells, or in any manner facilitates the transportation, concealment, or sale of any such narcotic drug after being imported or brought in, knowing the same to have been imported contrary to law, such person shall upon conviction be fined not more than \$5,000 and imprisoned for not more than 10 years.

"(d) Any narcotic drug imported or brought into the United States or any territory under its control or jurisdiction, contrary to law, shall (1) if smoking opium or opium prepared for smoking, be seized and summarily forfeited to the United States Government without the necessity of instituting forfeiture proceedings of any character; or (2), if any other narcotic drug, be seized and forfeited to the United States Government, without regard to its value, in the manner provided by sections 3075 and 3076 of the Revised Statutes, or the provisions of law hereafter enacted which are amendatory of, or in substitution for, such sections. Any narcotic drug which is forfeited in a proceeding for condemnation or not claimed under such sections, or which is summarily forfeited as provided in this subdivision, shall be placed in the custody of the board and in its discretion be destroyed or delivered to some agency of the United States Government for use for medical or scientific purposes.

"(e) Any alien who at any time after his entry is convicted under subdivision (c) shall, upon the termination of the imprisonment imposed by the court upon such conviction and upon warrant issued by the Secretary of Labor, be taken into custody and deported in accordance with the provisions of sections 19 and 20 of the Act of February 5, 1917, entitled 'An Act to regulate the immigration of aliens to, and the residence of aliens in the United States,' or provisions of law hereafter enacted which are amendatory of, or in substitution for, such sections.

"(f) Whenever on trial for a violation of subdivision (c) the defendant is shown to have or to have had possession of the narcotic drug, such possession shall be deemed sufficient evidence to authorize conviction, unless the defendant explains the possession to the satisfaction of the jury.

"(g) The master of any vessel or other water craft, or a person in charge of a railroad car or other vehicle, shall not be liable under subdivision (c), if he satisfies the jury that he had no knowledge of and used due diligence to prevent the presence of the narcotic drug in or on such vessel, water craft, railroad car, or other vehicle; but the narcotic drug shall be seized, forfeited, and disposed of as provided in subdivision (d)."

SEC. 2. That sections 5 and 6 of such Act of February 9, 1909, as amended, are amended to read as follows:

"Sec. 5. That no smoking opium or opium prepared for smoking shall be admitted into the United States or into any territory under its control or jurisdiction for transportation to another country, or be transferred or transhipped from one vessel to another vessel within any waters of the United States for immediate exportation or for any other purpose; and except with the approval of the board, no other narcotic drug may be so admitted, transferred, or transhipped.

"Sec. 6. (a) That it shall be unlawful for any person subject to the jurisdiction of the United States Government to export or cause to be exported from the United States, or from territory under its control or jurisdiction, or from countries in which the United States exercises extraterritorial jurisdiction, any narcotic drug to any other country: *Provided*, That narcotic drugs (except smoking opium and opium prepared for smoking, the exportation of which is hereby absolutely prohibited) may be exported to a country only which has ratified and become a party to the convention and final protocol between the United States Government and other powers for the suppression of the abuses of opium and other drugs, commonly known as the International Opium Convention of 1912, and then only if (1) such country has instituted



and maintains, in conformity with that convention, a system, which the board deems adequate, of permits or licenses for the control of imports of such narcotic drugs; (2) the narcotic drug is consigned to an authorized permittee; and (3) there is furnished to the board proof deemed adequate by it, that the narcotic drug is to be applied exclusively to medical and legitimate uses within the country to which exported, that it will not be reexported from such country, and that there is an actual shortage of and a demand for the narcotic drug for medical and legitimate uses within such country.

"(b) The Secretary of State shall request all foreign Governments to communicate through the diplomatic channels copies of the laws and regulations promulgated in their respective countries which prohibit or regulate the importation and shipment in transit of any narcotic drug and, when received, advise the board thereof.

"(c) The board shall make and publish all proper regulations to carry into effect the authority vested in it by this Act."

SEC. 3. That section 8 of such Act of February 9, 1909, as amended, is amended to read as follows:

"Sec. 8. (a) That a narcotic drug that is found upon a vessel arriving at a port of the United States or territory under its control or jurisdiction and is not shown upon the vessel's manifest, or that is landed from any such vessel without a permit first obtained from the collector of customs for that purpose, shall be seized, forfeited, and disposed of in the manner provided in subdivision (d) of section 2, and the master of the vessel shall be liable (1) if the narcotic drug is smoking opium, to a penalty of \$25 an ounce, and (2) if any other narcotic drug, to a penalty equal to the value of the narcotic drug.

"(b) Such penalty shall constitute a lien upon the vessel which may be enforced by proceedings by libel *in rem*. Clearance of the vessel from a port of the United States may be withheld until the penalty is paid, or until there is deposited with the collector of customs at the port, a bond in a penal sum double the amount of the penalty, with sureties approved by the collector, and conditioned on the payment of the penalty (or so much thereof as is not remitted by the Secretary of the Treasury) of all costs and other expenses to the Government in proceedings for the recovery of the penalty, in case the master's application for remission of the penalty is denied in whole or in part by the Secretary of the Treasury.

"(c) The provisions of law for the mitigation and remission of penalties and forfeitures incurred for violations of the customs laws, shall apply to penalties incurred for a violation of the provisions of this section."

SEC. 4. That such Act of February 9, 1909, as amended, is amended by adding at the end thereof a new section to read as follows:

"Sec. 9. That this Act may be cited as the 'Narcotic Drugs Import and Export Act.'"

Approved, May 26, 1922.

### Automobiles for Australia.

In the 5,911 tons of cargo carried through the Canal on the steamer *Canadian Victor*, July 22, bound from Montreal to New Zealand and Australia, were 2,470 tons of automobiles.

In June the steamship *Sussex* carried 1,000 tons of automobiles from New York to Australia, and the steamship *Karouga* 800 tons from New York to Australia.

### Official Circulars.

#### Sales of Material.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., July 13, 1922.

CIRCULAR NO. 630-8 (superseding all Circulars of the 630 series):

1. The Supply Department will handle all sales of material, supplies, and equipment for The Panama Canal and the Panama Railroad on the Isthmus, unless otherwise specifically authorized by the Governor.

2. All sales shall be made on a cash basis. Certified checks, bonds, and other securities or cash credits with The Panama Canal and Panama Railroad may be utilized as guaranty of pay-

ment in amounts and under conditions satisfactory to the Chief Quartermaster and the Auditor.

3. Sales from regular stock of material, supplies, and equipment which can be spared, may be made to the following, under conditions stated:

(a) To other departments of the United States Government on the basis of stock card values plus the surcharge specified in prevailing published tariff.

(b) To employees of The Panama Canal, Panama Railroad Company, and other Departments of the United States Government for their personal use only; clubs, societies and other organizations of such employees; and to charitable and religious institutions located on the Canal Zone, when such material, supplies, or equipment are not carried in Panama Canal Com-

missaries on the basis of stock card values plus the surcharge specified in prevailing published tariff. When such social, fraternal, charitable, or religious organizations are located in territory under the jurisdiction of the Republic of Panama, sales to same shall be subject to the customs laws and regulations of the Republic of Panama.

(c) To steamship companies and their authorized agents for use on ships clearing for or arriving from a foreign port (other than Panamanian ports); and to individuals and companies when the articles purchased are for use solely outside of the territorial limits of the Canal Zone and the Republic of Panama; without customs duty requirements; on the basis of stock card values plus the surcharge specified in prevailing published tariff.

(d) To contractors with The Panama Canal and Panama Railroad under conditions stated in their contracts.

(e) To all others not heretofore specified; subject to the customs laws and regulations of the Republic of Panama, on the basis of stock card values plus the surcharge specified in prevailing published tariff.

(f) Scrap, obsolete material, supplies and equipment, and second hand material, supplies, and equipment carried at appraised prices will be sold without surcharge.

4. Delivery of all articles will be made f. o. b. the nearest storehouse where material is actually located, or on the spot in case of material located in the field, unless otherwise specifically agreed upon. Purchasers must arrange for transportation and agree to accept delivery and remove material at the time of sale, or within an agreed period of time thereafter. Supplies to shipping may be sold f. a. s.

5. Surplus and obsolete material and equipment, after having been regularly surveyed and appraised, may be sold at prices approved by the Governor without surcharge. The General Storekeeper is authorized to effect the sale of such articles at a discount of not more than 25 per cent of the appraised value where the appraised value of the articles to be sold at such discount does not exceed \$500. Such sales at a discount where the appraised value of the articles exceeds \$100 should be made only in case of emergency and all such sales must be reported to the Governor at the end of each month for his approval. Articles appraised at less than \$100 and on hand in the Obsolete Storehouse more than 3 months, may be sold for not less than 50 per cent of the appraised value in the discretion of the General Storekeeper.

6. Public property which has been condemned, or the sale price of which has been reduced as the result of a survey or inspection, will not be purchased by any official who was responsible therefor at the time of the condemnation or reduction in price, nor by any official who bore any part in any such condemnation or reduction.

7. All materials, supplies and equipment requiring appraisal of value for transfer to the Supply Department for sale, and transfer between Departments and Divisions of The Panama Canal and Panama Railroad, or to other Departments of the Government, shall be promptly appraised by a Board of Appraisal consisting of:

(a) The Surveying Officer.

(b) A representative of the Mechanical Division designated with the approval of the Governor.

(c) A member of the Board of Local Inspectors designated by the Chairman of the Board shall act as a member of this board whenever any floating equipment is to be appraised.

(d) The Constructing Quartermaster of the Supply Department will act as a member whenever any buildings are to be appraised.

This Board shall report to the Chief Quartermaster and shall function so as to facilitate the sale or disposition of property in the most expeditious manner.

8. Delivery of material, supplies, and equipment subject to customs duties in the Republic of Panama will not be made to the purchaser until he shall have presented to the storehouse making sale a copy of bill covering sale on which

are indorsed certificates signed by the Treasurer of the Republic of Panama, or his authorized representative, in Panama or Colon, that customs duties on such material, supplies, and equipment have been paid or have been remitted.

9. If the value of sales in any case, except sales to shipping, exceeds \$2,500, prior authority from the Governor, must be obtained. All sales, except to shipping, in excess of \$250, made without prior authority, shall be reported monthly to the Governor.

JAY J. MORROW,  
Governor.

#### Acting Captain of the Port, Cristobal.

THE PANAMA CANAL,  
DEPT. OF OPERATION AND MAINTENANCE,  
BALBOA HEIGHTS, C. Z., July 13, 1922.

To all concerned—During the absence on leave of Commander F. V. McNair, U. S. N., Assistant Port Captain H. L. Eden will act as Captain of the Port, Cristobal, and member of the Board of Local Inspectors, The Panama Canal, effective this date.

E. P. JESSOP,  
Marine Superintendent.

Approved:  
JAY J. MORROW,  
Governor.

#### Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa. For delivering lump coal for galley use, in sacks, \$12 additional per ton; but if vessel furnishes sacks, \$5 per ton additional.

For coal in large quantities as specified below, taken from alongside coaling plants:

(a) To vessels taking 1,200 tons or over;

(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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The Panama Canal, Washington, D. C.

Entered as second-class matter February 6, 1918, at the Post Office  
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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., August 2, 1922.

No. 51.

## Texas Company's Tanker "Shenandoah" Makes Local Record for Quick Discharge of Cargo.

A record for quick discharge of a cargo of fuel oil by a tanker at the plants at the terminals of The Panama Canal was established at the most recent delivery of the tanker *Shenandoah*. The *Shenandoah* started pumping at the oil dock at Cristobal at 11 o'clock at night on July 18, and at 5 p. m. on the 19th was ready to go to sea, having discharged 61,366.66 barrels in 18 hours. This was at the average rate of 3,409 $\frac{1}{4}$  barrels per hour. During the night hours the ship was discharging approximately 5,500 barrels an hour, but in the morning it was necessary to disconnect from one of the pipe lines so that it might be used by the plant in bunkering a ship; except for this the *Shenandoah* would probably have completed discharge by 1 o'clock.

The *Shenandoah* is owned and operated by the Texas Company, and had brought a shipment of oil from Puerto Lobos, Mexico, for delivery to the company's tanks at Cristobal.

## Addition to Pacific Mail Coastwise Service.

The Pacific Mail Steamship Co. is establishing a new fast freight service by adding 4 cargo vessels of approximately 9,000 deadweight tons capacity each to its New York and San Francisco line, in which 3 combination passenger and cargo vessels are engaged at present. In addition to the calls at Los Angeles and San Francisco, now made by the passenger ships, the cargo ships will also call at Portland, Tacoma, and Seattle. They will omit the calls at Corinto, La Libertad, San Jose, and Manzanillo, made by the passenger ships.

With the addition of the cargo ships, the Pacific Mail will have sailings in the coastwise service every 10 days for freight and every 21 days for passengers.

The first of the 4 cargo vessels to make the transit of the Canal will be the *Santa Malta*, due from New York August 14. The 3 other ships to be added to the service are the *Santa Clara*, *Santa Olivia*, and *Santa Paula*. The passenger vessels now in the New York-San Francisco service are the *Colombia*, *Ecuador*, and *Venezuela*.

## Information from American Consuls.

The Consular officers of the United States at seaports all over the world are *ex officio* representatives of The Panama Canal for the purpose of furnishing information to shipping and allied interests as to conditions, charges, etc., at the Panama Canal affecting the operation of ships. The current publications of The Panama Canal of interest to shipping are furnished to the Consular officers and filed for reference. It is not desired that inquires of a general nature be addressed to the Consular officers, or that they be burdened with requests which should be made direct to The Panama Canal; but ships' operators who may not be sufficiently advised as to charges, supplies, facilities, etc., at the Canal will often save time by applying to the nearest American Consul.



**MOVEMENTS OF OCEAN VESSELS.**  
*Week ending at midnight, July 29, 1922.*

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                   | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                        | Length. | Beam. | Salt water draft. | From—         | For—            | Cargo.             |        | Panama Canal tonnage. |       |
|-------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|------------------------------|---------|-------|-------------------|---------------|-----------------|--------------------|--------|-----------------------|-------|
|                         | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                              |         |       |                   |               |                 | Nature.            | Tons.  | Gross.                | Net.  |
| Esquilho.               | 22               | 11.56 | 23             | 6.15  | 23                 | 13.46 | 23               | 15.51 | British.     | Pacific Steam Navigation Co. | 450.0   | 57.0  | 24.3              | New York      | Valparaiso.     | General.           | 2,535  | 9,099                 | 6,117 |
| Dakotan.                | 23               | 2.35  | 23             | 7.48  | 23                 | 14.43 | 23               | 15.54 | American.    | American-Hawaim Line.        | 407.7   | 53.7  | 25.0              | New York      | Los Angeles.    | General.           | 4,600  | 7,156                 | 5,058 |
| Berengar.               | 23               | 18.59 | 24             | 6.30  | 24                 | 13.44 | 24               | 15.09 | British.     | Oaklin Steamship Co.         | 399.6   | 53.7  | 24.10             | Barry         | San Francisco.  | Coal.              | 6,849  | 6,403                 | 4,620 |
| Cowes.                  | 24               | 6.23  | 24             | 7.30  | 24                 | 14.02 | 24               | 17.24 | American.    | Fred J. Gaultlett.           | 253.0   | 43.0  | 16.6              | Baltimore     | San Francisco.  | General.           | 134    | 2,940                 | 1,959 |
| Bullhorn.               | 24               | 12.17 | 24             | 12.30 | 24                 | 19.24 | 24               | 20.15 | Swedish.     | Transatlantic Steamship Co.  | 425.0   | 57.0  | 26.0              | Newcastle     | San Francisco.  | General.           | 8,635  | 7,614                 | 5,384 |
| Willow.                 | 24               | 13.10 | 24             | 13.10 | 24                 | 20.26 | 24               | 21.26 | American.    | Williams Steamship Co.       | 388.8   | 52.2  | 23.0              | New York      | Seattle.        | General.           | 5,951  | 5,680                 | 4,112 |
| Manay.                  | 13               | 16.17 | 25             | 6.05  | 25                 | 13.39 | 25               | 17.25 | British.     | Pacific Steam Navigation Co. | 216.0   | 35.1  | 12.6              | Cristobal     | Guayquil.       | General.           | 160    | 1,337                 | 884   |
| Centurion.              | 25               | 7.57  | 25             | 8.15  | 25                 | 17.38 | 25               | 17.28 | British.     | Harrison Line.               | 403.0   | 52.0  | 23.6              | Liverpool     | Los Angeles.    | General.           | 6,000  | 5,738                 | 4,161 |
| Hertford.               | 25               | 9.12  | 25             | 9.35  | 25                 | 17.38 | 26               | 14.10 | British.     | Federal Steam Navigation Co. | 529.0   | 64.0  | 30.6              | New York      | Brisbane.       | General.           | 9,635  | 12,384                | 8,683 |
| Santa Maria.            | 25               | 18.45 | 26             | 6.45  | 26                 | 14.22 | 26               | 15.41 | British.     | Santa Maria Steamship Co.    | 460.0   | 69.0  | 28.0              | Tampico       | Tocopilla.      | Fuel oil.          | 10,500 | 8,746                 | 5,679 |
| Yone Maru.              | 25               | 23.33 | 26             | 7.42  | 26                 | 15.03 | 26               | 16.20 | Japanese.    | Kokusa Kisen Kaisha.         | 425.0   | 53.0  | 24.0              | New York      | Yokohama.       | General.           | 6,317  | 6,823                 | 5,186 |
| Irene S. Wilkin-son.    | 25               | 18.07 | 26             | 9.15  | 26                 | 16.49 | 29               | 15.50 | American.    | Howard Lumber Co.            | 187.3   | 38.0  | 14.0              | Port Arthur.  | San Miguel Bay. | General.           | 625    | 866                   | 730   |
| Argosy.                 | 26               | 8.10  | 26             | 10.30 | 26                 | 17.37 | 27               | 12.35 | American.    | Wessel Duval & Co. (S. B.).  | 390.0   | 54.0  | 18.0              | Philadelphia  | Pimental.       | General.           | 2,276  | 6,203                 | 4,307 |
| Ansaldo San Giorgio II. | 25               | 20.22 | 26             | 11.00 | 26                 | 18.16 | 27               | 18.40 | Italian.     | Soc. Nav. di Navigazione.    | 378.0   | 51.6  | 17.0              | Genoa         | Valparaiso.     | General.           | 1,084  | 5,902                 | 4,287 |
| Palena C. Hall.         | 26               | 13.55 | 27             | 6.25  | 27                 | 13.52 | 28               | 7.53  | British.     | Chilean Line.                | 350.0   | 42.1  | 23.0              | Cristobal     | Valparaiso.     | General.           | 720    | 3,656                 | 2,577 |
| Cabore.                 | 26               | 14.30 | 27             | 7.23  | 27                 | 15.01 | 27               | 16.00 | American.    | Pacific Metals Corp.         | 81.0    | 25.0  | 8.0               | Cristobal     | Buenaventura.   | General.           | 9      | 139                   | 72    |
| Anstair.                | 26               | 22.04 | 27             | 8.30  | 27                 | 15.49 | 27               | 17.29 | German.      | Ore Shipping Co.             | 450.0   | 57.0  | 18.0              | Baltimore     | Cruz Grande.    | Ballast.           | 7,807  | 4,829                 |       |
| Andrea F.               | 27               | 3.06  | 27             | 9.15  | 27                 | 17.01 | 27               | 18.05 | American.    | Kolander Line.               | 497.0   | 54.6  | 21.10             | Hamburg       | Guayquil.       | General.           | 4,16   | 6,342                 | 4,532 |
| Luckenbach.             | 27               | 3.06  | 27             | 9.15  | 27                 | 17.01 | 27               | 18.05 | American.    | Luckenbach Line.             | 496.0   | 68.0  | 25.0              | Philadelphia  | Los Angeles.    | General.           | 7,021  | 11,487                | 8,732 |
| President Sar-mento.    | 26               | 18.44 | 27             | 10.35 | 27                 | 18.12 |                  |       | Argentine.   | Argentine Government.        | 266.0   | 42.5  | 18.6              | New York      | Balboa          | General and steel. | 5,500  | 8,243                 | 6,312 |
| Q-16.                   | 27               | 13.23 | 28             | 6.30  | 28                 | 17.45 |                  |       | American.    | U. S. Navy.                  | 175.0   | 16.3  | 12.11             | Cristobal     | Balboa          | General.           | 5,500  | 8,243                 | 6,312 |
| Tiger.                  | 27               | 20.28 | 28             | 10.05 | 28                 | 17.46 | 29               | 13.45 | Swedish.     | Standard Transportation Co.  | 410.0   | 56.0  | 22.0              | Boston        | Los Angeles.    | General.           | 7,753  | 7,480                 | 5,533 |
| Balboa.                 | 27               | 7.03  | 28             | 10.05 | 28                 | 17.46 | 29               | 13.45 | American.    | Johnson Line.                | 449.0   | 56.0  | 25.0              | Stockholm     | San Francisco.  | General.           | 2,534  |                       |       |
| U. S. Grant.            | 27               | 14.45 | 28             | 13.05 | 28                 | 20.34 | 28               | 21.42 | British.     | U. S. Army.                  | 490.0   | 55.0  | 28.0              | New York      | Buenaventura.   | Ballast.           | 1,589  | 1,018                 |       |
| Cauca.                  | 24               | 15.45 | 28             | 13.05 | 28                 | 21.30 | 28               | 23.05 | American.    | Pacific Steam Navigation Co. | 216.0   | 35.0  | 14.10             | Cristobal     | Buenaventura.   | General.           | 2,004  |                       |       |
| Strus.                  | 27               | 7.55  | 29             | 6.35  | 29                 | 14.09 | 29               | 16.20 | American.    | U. S. Navy.                  | 401.0   | 54.0  | 21.8              | Hampton Roads | San Diego.      | General.           | 8,033  | 7,611                 | 5,450 |
| Amunition City.         | 28               | 20.58 | 29             | 7.35  | 29                 | 14.09 | 29               | 16.20 | American.    | U. S. Steel Products Co.     | 424.2   | 56.2  | 26.0              | New York      | Los Angeles.    | General.           | 1,809  |                       |       |
| Procyon.                | 28               | 11.25 | 29             | 8.13  | 29                 | 15.55 | 30               | 21.56 | British.     | U. S. Navy.                  | 491.0   | 54.0  | 26.0              | New Orleans.  | Mare Island.    | Fuel oil.          | 9,600  | 7,496                 | 5,311 |
| Lompoc.                 | 29               | 8.12  | 29             | 9.20  | 29                 | 17.05 | 30               | 19.10 | British.     | C. T. Bowring & Co.          | 435.0   | 55.5  | 28.8              | Tampico       | Antofagasta.    | Kerosene.          | 7,449  | 6,212                 | 4,320 |
| Amplurilla.             | 29               | 3.30  | 29             | 10.20 | 29                 | 17.56 | 30               | 19.29 | British.     | Anglo-Saxon Petroleum Co.    | 412.0   | 53.8  | 25.0              | Tampico       | Shanghai.       | General.           | 2,379  | 1,583                 |       |
| San Juan.               | 25               | 13.38 | 29             | 12.16 | 29                 | 19.00 | 29               | 23.55 | American.    | Pacific Mail Steamship Co.   | 283.0   | 37.0  | 17.10             | Cristobal     | San Francisco.  | General.           | 1,884  |                       |       |
| Epsom.                  | 29               | 9.25  | 29             | 13.00 | 29                 | 19.58 | 29               | 21.30 | British.     | Watts, Watts & Co.           | 370.0   | 50.0  | 18.0              | Norfolk       | Tocopilla.      | Ballast.           | 4,915  | 3,468                 |       |

\* Motor ship.

\* Schooner.

\* Motor schooner.

\* Training ship.

\* Submarine.

\* U. S. Army transport.

\* U. S. Navy supply ship.



THROUGH THE CANAL—PACIFIC TO ATLANTIC.

|                |    |    |    |    |    |    |    |    |    |    |    |    |           |                              |     |    |    |    |                |                |        |        |       |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|-----------|------------------------------|-----|----|----|----|----------------|----------------|--------|--------|-------|
| Cumberland.    | 22 | 18 | 00 | 23 | 7  | 00 | 23 | 14 | 22 | 23 | 14 | 29 | British.  | Federal Steam Navigation Co. | 520 | 0  | 29 | 4  | Sydney.        | London.        | 10,100 | 12,167 | 8,348 |
| Lobos.         | 23 | 3  | 30 | 23 | 8  | 09 | 23 | 15 | 16 | 24 | 15 | 16 | British.  | Pacific Steam Navigation Co. | 405 | 5  | 52 | 7  | General.       | General.       | 7,889  | 7,151  | 4,716 |
| Arctic.        | 23 | 7  | 00 | 23 | 8  | 49 | 23 | 16 | 18 | 24 | 16 | 18 | American. | American-Hawaiian Line.      | 408 | 5  | 24 | 0  | Boston.        | Boston.        | 3,535  | 5,988  | 5,988 |
| Ocean Prince.  | 23 | 8  | 00 | 23 | 9  | 52 | 23 | 17 | 15 | 24 | 18 | 30 | British.  | Furness Withy & Co.          | 403 | 0  | 25 | 6  | General.       | General.       | 7,300  | 5,926  | 4,252 |
| Albano.        | 22 | 19 | 00 | 23 | 11 | 50 | 24 | 15 | 04 | 25 | 18 | 08 | Italian.  | National Navigation Co.      | 380 | 0  | 24 | 6  | Valparaiso.    | Genoa.         | 6,417  | 5,864  | 4,266 |
| Argos.         | 22 | 20 | 45 | 24 | 7  | 55 | 24 | 15 | 04 | 24 | 15 | 04 | American. | U. S. Shipping Board.        | 390 | 0  | 24 | 6  | Philadelphia.  | Philadelphia.  | 6,319  | 6,204  | 4,314 |
| Artigas.       | 24 | 3  | 00 | 24 | 8  | 35 | 24 | 15 | 45 | 28 | 13 | 05 | British.  | Pacific Steam Navigation Co. | 360 | 0  | 15 | 2  | Cristobal.     | Cristobal.     | 1,005  | 1,589  | 1,018 |
| Caica.         | 24 | 6  | 00 | 24 | 8  | 53 | 24 | 16 | 35 | 24 | 20 | 32 | American. | Grace Line.                  | 245 | 0  | 13 | 2  | Champerico.    | Champerico.    | 4,251  | 5,057  | 4,292 |
| Santa Elisa.   | 24 | 7  | 00 | 24 | 9  | 53 | 24 | 16 | 35 | 24 | 20 | 32 | American. | Grace Line.                  | 245 | 0  | 13 | 2  | Talcahuano.    | New York.      | 13,974 | 11,225 | 7,913 |
| F. H. Hillman. | 24 | 7  | 00 | 24 | 10 | 30 | 24 | 18 | 21 | 24 | 18 | 20 | American. | Standard Oil Co.             | 500 | 0  | 68 | 2  | San Francisco. | Philadelphia.  | 1,600  | 1,411  | 2,386 |
| Hualayla.      | 24 | 9  | 50 | 24 | 11 | 43 | 24 | 19 | 05 |    |    |    | Peruvian. | Peruvian Line.               | 360 | 0  | 44 | 7  | Mollendo.      | Cristobal.     | 1,600  | 1,411  | 2,386 |
| Largo Law.     | 24 | 12 | 25 | 24 | 14 | 45 | 24 | 22 | 21 | 24 | 22 | 21 | British.  | Phonetic Law & Co.           | 379 | 6  | 50 | 2  | Caleta Buena.  | Alexandria.    | 6,343  | 5,323  | 3,839 |
| San Juan.      | 24 | 14 | 35 | 25 | 6  | 48 | 25 | 13 | 38 | 29 | 12 | 16 | American. | Thames Mail Steamship Co.    | 283 | 0  | 15 | 6  | San Francisco. | Cristobal.     | 630    | 2,379  | 1,593 |
| William A. Mc. | 24 | 17 | 25 | 25 | 7  | 50 | 25 | 14 | 45 | 25 | 14 | 45 | American. | Crowell & Thurlow.           | 395 | 0  | 15 | 10 | San Pedro.     | General.       | 5,992  | 6,532  | 4,528 |
| Kenny.         | 24 | 23 | 45 | 25 | 8  | 12 | 25 | 16 | 15 | 25 | 23 | 10 | British.  | F. and W. Wilson.            | 400 | 4  | 23 | 0  | San Antonio.   | General.       | 6,300  | 5,208  | 3,578 |
| Hazel Branch.  | 24 | 23 | 45 | 25 | 11 | 25 | 25 | 18 | 00 | 27 | 11 | 05 | British.  | U. S. Army.                  | 448 | 0  | 23 | 0  | San Antonio.   | General.       | 8,925  | 5,301  | 3,866 |
| Cambrai.       | 25 | 10 | 30 | 25 | 12 | 25 | 25 | 20 | 54 | 26 | 8  | 33 | British.  | Standard Transport Co.       | 390 | 0  | 15 | 0  | Brooklyn.      | General.       | 59     | 132    | 72    |
| Aspriet.       | 25 | 12 | 50 | 25 | 13 | 24 | 25 | 20 | 54 | 26 | 8  | 33 | British.  | Pacific Metals Corp.         | 81  | 0  | 9  | 0  | New York.      | Ballast.       | 59     | 132    | 72    |
| Laura C. Hall. | 25 | 11 | 00 | 26 | 6  | 46 | 26 | 13 | 53 | 27 | 6  | 25 | British.  | Pacific Metals Corp.         | 81  | 0  | 9  | 0  | Cristobal.     | Coffee.        | 59     | 132    | 72    |
| Stuart Dollar. | 26 | 16 | 35 | 27 | 7  | 05 | 27 | 14 | 05 | 27 | 21 | 20 | American. | Dollar Line.                 | 429 | 0  | 24 | 6  | Manila.        | General.       | 6,142  | 7,581  | 5,658 |
| Edgar F. Luck. | 26 | 17 | 25 | 27 | 7  | 49 | 27 | 15 | 43 | 27 | 15 | 45 | American. | Lukenbach Line.              | 425 | 0  | 23 | 6  | Boston.        | General.       | 5,500  | 8,568  | 6,705 |
| enbach.        | 26 | 19 | 25 | 27 | 8  | 49 | 27 | 15 | 43 | 27 | 15 | 45 | British.  | New Zealand Shipping Co.     | 449 | 0  | 23 | 0  | New York.      | General.       | 3,003  | 2,556  | 5,470 |
| Okaki.         | 27 | 11 | 00 | 27 | 12 | 05 | 27 | 19 | 36 | 28 | 8  | 00 | Japanese. | Toyo Kisen Kaisha.           | 400 | 53 | 20 | 0  | Adelaide.      | General.       | 7,530  | 6,187  | 4,541 |
| Woyo Maru.     | 27 | 3  | 00 | 28 | 7  | 46 | 28 | 14 | 15 |    |    |    | Chilean.  | South American Steamship Co. | 336 | 8  | 41 | 2  | Iloilo.        | Sugar.         | 230    | 3,296  | 2,156 |
| Imperial.      | 28 | 3  | 00 | 28 | 7  | 46 | 28 | 14 | 15 |    |    |    | British.  | South American Steamship Co. | 336 | 8  | 41 | 2  | Valparaiso.    | General.       | 3,881  | 8,620  | 5,345 |
| Oriana.        | 28 | 4  | 45 | 28 | 9  | 07 | 28 | 17 | 10 | 29 | 13 | 05 | American. | U. S. Shipping Board.        | 465 | 9  | 51 | 0  | Punta Arenas.  | General.       | 1,500  | 5,945  | 4,561 |
| Easterner.     | 28 | 2  | 00 | 28 | 10 | 12 | 28 | 17 | 20 | 29 | 19 | 35 | American. | U. S. Shipping Board.        | 385 | 0  | 18 | 2  | Sydney.        | General.       | 888    | 1,213  | 691   |
| Salvador.      | 28 | 6  | 45 | 28 | 10 | 25 | 28 | 17 | 50 | 30 | 10 | 13 | British.  | Pacific Mail Steamship Co.   | 225 | 0  | 35 | 9  | Guayaquil.     | General.       | 2,442  | 6,015  | 4,291 |
| Colombia.      | 28 | 5  | 41 | 28 | 14 | 22 | 28 | 21 | 27 | 30 | 6  | 00 | American. | Pacific Mail Steamship Co.   | 380 | 0  | 48 | 7  | San Francisco. | General.       | 2,442  | 6,015  | 4,291 |
| Albion.        | 28 | 13 | 55 | 28 | 14 | 34 | 28 | 23 | 05 | 29 | 11 | 20 | British.  | Commonwealth Government.     | 376 | 1  | 52 | 0  | Norfolk.       | General.       | 4,800  | 4,718  | 3,359 |
| Australford.   | 28 | 13 | 55 | 28 | 14 | 34 | 28 | 23 | 05 | 29 | 11 | 20 | British.  | Commonwealth Government.     | 376 | 1  | 52 | 0  | London.        | Copra, wheat.  | 4,800  | 4,718  | 3,359 |
| Eldeña.        | 28 | 7  | 00 | 29 | 6  | 43 | 29 | 13 | 58 | 29 | 13 | 58 | American. | U. S. Army.                  | 409 | 6  | 24 | 10 | Honolulu.      | Army supplies. | 4,200  | 7,485  | 5,748 |
| India Arrow.   | 28 | 23 | 00 | 29 | 7  | 45 | 29 | 15 | 22 | 29 | 15 | 22 | American. | Standard Transport Co.       | 468 | 3  | 62 | 2  | New York.      | Kerosene oil.  | 5,200  | 10,084 | 7,426 |
| Arcturion.     | 28 | 23 | 00 | 29 | 7  | 45 | 29 | 15 | 22 | 29 | 15 | 22 | American. | Standard Transport Co.       | 468 | 3  | 62 | 2  | Beaumont.      | Kerosene oil.  | 7,800  | 9,841  | 6,946 |
| Ankee Arrow.   | 29 | 8  | 00 | 29 | 9  | 52 | 29 | 16 | 37 | 29 | 16 | 37 | American. | Standard Transport Co.       | 468 | 3  | 62 | 7  | Shanghai.      | General.       | 5,577  | 6,789  | 4,746 |
| Santa Barbara. | 29 | 8  | 00 | 29 | 10 | 22 | 29 | 18 | 17 | 29 | 23 | 08 | American. | Grace Line.                  | 404 | 6  | 54 | 0  | Portland.      | General.       | 5,577  | 6,789  | 4,746 |

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL

| *ARRIVALS.   |                    |                                 | *DEPARTURES. |                     |                 |
|--------------|--------------------|---------------------------------|--------------|---------------------|-----------------|
| Date.        | Vessel.            | From—                           | Date.        | Vessel.             | To—             |
| July 23..... | Turrialba.         | New Orleans via Habana.         | July 23..... | Conde de Churrucua. | Tampico.        |
| July 23..... | Gen. W. C. Gorgas. | Panama Railroad Steamship Line. | July 24..... | Turrialba.          | Bocas del Toro. |
| July 24..... | Cartago.           | New Orleans.                    | July 25..... | Berlin.             | Nuevas.         |
| July 24..... | United Fruit Co.   | New York via Habana.            | July 26..... | Calamates.          | Port Limon.     |
| July 25..... | Calamates.         |                                 |              | United Fruit Co.    |                 |

(Continued on page 640, column 2.)

### Origin and Destination of Cargo During Past Fiscal Year.

The tonnage of cargo passing through the Canal during the fiscal year 1922 (10,884,910) was equivalent to 93.8 per cent of the tonnage of the previous year (11,599,172).

The greatest shrinkage was in the trade with the west coast of South America. Exports from the Atlantic and Gulf ports of the United States to that region fell from 933,261 to 244,514 tons. European exports to South America declined only from 297,166 to 283,804 tons. Exports from South America through the Canal to the United States were 548,609 tons, as compared with 975,597 in 1921, and to Europe 663,127, as compared with 922,499.

Combining imports and exports and Europe and the United States, this South American trade was less by 1,388,469 tons, and to this may be added a difference of 398,097 tons in crude oil shipments from Mexico to South America, or a total of 1,786,566.

This was due to market conditions. Prices have been so low and demand so slack that the West Coast countries have found it impossible to market their raw materials at a profit and shipments have been greatly curtailed.

The trade with Australasia has also fallen off. Exports from the United States to Australasia declined from 620,428 to 288,090, and exports from Europe from 391,848 to 359,895. Shipments from Australasia to the United States fell from 147,877 to 45,957, and to Europe from 579,745 to 381,538. The total loss of tonnage in the Australasian trade amounted to 664,418. In this case, too, economic conditions are in the main responsible, but there was also some diversion of traffic from Panama to competing routes.

Exports from the United States to the Far East increased from 1,213,906 to 1,728,172 tons. Imports from the Far East fell from 428,044 to 303,315. The combined movement showed a gain of 389,537 tons.

The most remarkable gains of the year were in the movements of cargo to and from the Pacific coast of North America, particularly the latter.

Exports from the west coast of the United States to Europe were 1,302,183 tons, as compared with 1,154,840 in 1921, and from western Canada to Europe 420,272, as compared with 154,513. The whole west coast of North America should be treated as a unit in dealing with these figures, as most vessels in the trade load and discharge cargo at both American and Canadian ports. The combined increase amounted to 413,102 tons. Canadian imports from Europe increased from 20,416 to 149,553, and American imports from 144,591 to 186,696. The combined gain was 171,242 tons.

Cargo moving from east to west in the United States coastwise trade increased from 698,429 to 1,288,075 tons, and cargo moving from west to east from 673,959 to 1,274,452 tons. The total gain in this trade for both directions has been 1,190,139 tons, equivalent to 86.7 per cent. This rapid development of the coastwise trade is the most conspicuous feature of the year's business. It has compensated for losses elsewhere, and maintained the total volume of traffic at nearly the same level as in 1921.

There has also been an increase in the trade between the west coast of Canada and the east coast of the United States, but a comparison

can not be made, as exact statistics for 1921 are not available. In 1922 the westbound cargo on this route amounted to 88,408 tons, and the eastbound to 159,921 tons.

### Notice to Mariners.—Menaces to Navigation.

THE PANAMA CANAL, EXECUTIVE OFFICE,  
BALBOA HEIGHTS, C. Z., July 31, 1922.

1. From master of steamship *San Juan*:

Steamship *San Juan* passed Bona Island 5 miles off, July 30, 2.30 a. m., L. A. T. Light not burning. NOTE—This light will be fixed within next day or two.

Steamship *San Juan* passed log 35 feet long, 4 feet in diameter, with branches sticking up, in Lat. 7° 13' North, Long. 80° 20' West, 11 a. m., L. A. T., July 30. Menace to navigation.

2. From U. S. A. T. *Eldena*:

(8 a. m., July 30.) Lat. 11° 36' North, Long. 78° 38' West, Wind NE-E 4, weather overcast equally, barometer 29.95, air 79, sea rough. (4 p. m., July 30), Lat. 12° 31' North, Long. 78° 12' West, Wind E-NE 5, weather hazy, air 86, barometer 29.80, sea rough.

JAY J. MORROW,  
Governor.

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended July 29:

Steamships *Seiyo Maru*, straighten and repair broken davit stanchion and rail; *Rosana*, face off joints on 12 valves; manufacture 24 copper gaskets per sample.

PREVIOUSLY REPORTED.

Dredge *Paraiso*, work for widening hull is going along; in addition miscellaneous running repairs to hull and engines.

The following vessels were at the Cristobal shops for repairs during the week ended July 31:

Steamship *Cauca*, renew packing in drain valve for M. P. engine; repair ash hoist, ballast pump link motion, and sea suction valve, refrigerator suction pipe, exhaust pipe for forward winch and starboard boiler safety valves and seats; overhaul engine room telegraph and repair and adjust wire and chain leads; patch top of fidley; re-rubber ports; calk forward well deck; repair galley stove and rebrick, etc.; tug *Favorile*, weld brake band and make lever for towing machine; steamships *Solana*, remove broken propeller blade and fit spare blade; braze copper pipe for dynamo engine; *Salvador*, repair 1 heater coil and manufacture 4 new ones as sample; *Cristobal*, fit new shroud plates on 2 eccentric straps; renew 1 length of ice machine circulating water pipe; weld broken bracket on lifting gear for skylight, etc.; *Heredia*, manufacture piston ring for circulating pump; *Acajulla*, make deck over captain's room water-tight and make sun deck portable; clear scuppers and fit new rose plates; repair connecting link on wheel of patent log; manufacture 4 new coils for fuel oil heaters; machine valve face for circulating pump and fit false face, etc.; subchasers *Nos. 3 and 4*, dock, clean, and scrape bottom; repair copper sheathing; remove propellers, tail shaft, struts, strainers, etc.; plug all holes below water line and cover with copper sheathing; cut out bulkheads as directed; steamships *Huallaga*, *Metapan*, *Australford*, launches *Renown* and *Naos*, minor repairs.

### Facilities for Shipping.

The Panama Canal is equipped with all the facilities for the fueling, supply, and repair of ships which are found in modern ports.

The coaling plants, with an aggregate storage capacity of 700,000 tons, bunker ships at the rate of from 100 to 500 tons an hour, practically as fast as the nature of the vessel will allow. Oil can be delivered as fast as the ships can take it, from 30 tanks aggregating approximately 1,500,000 barrels of storage capacity. Crude fuel oil, Diesel oil, and gasoline are sold.

The ships' chandlery storehouses carry a wide variety of marine supplies and spare parts. The commissary stores sell foodstuffs, fresh meats, fruits, and vegetables, as well as clothing and a general line of goods for supplying about 30,000 people resident on the Isthmus. Ice plants, a large laundry, hotels, hospitals, and restaurants serve the passengers and crews of ships.

A salvage service operated by the Canal is available for prompt assistance to vessels within a radius of a thousand miles of the Canal, or farther if required. Seagoing tugs or a wrecking tug with requisite equipment are dispatched on short notice.

A 1,000-foot dry dock, capable of receiving the largest ships built, a smaller dry dock, floating cranes, foundry, and amply equipped shops, employing about 1,100 men, provide the means of making practically any kind of marine repairs.

In general, the services to shipping at the Canal are such as have been developed and found ample and effective, in the course of handling large traffic through the Canal in over 7 years of operation.



## Official Circulars.

## Appointment.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., July 24, 1922.

CIRCULAR No. 661-105:

Effective this date, Mr. Wilson H. Kromer is appointed Assistant Auditor on the Isthmus, *vice* Mr. Elwyn Greene, appointed Auditor, June 20, 1922.

JAY J. MORROW,  
Governor.

## Prohibition of Payment of Increased Salaries.

THE PANAMA CANAL,  
EXECUTIVE OFFICE,

BALBOA HEIGHTS, C. Z., July 29, 1922.

To all concerned—The Act of Congress, approved June 30, 1922, making appropriations for the Panama Canal for the fiscal year 1923, contains the following prohibition against the payment of increased salary for any position over that which was in effect for such position on June 30, 1921:

"No part of the foregoing appropriations for the Panama Canal shall be used to pay the salary for any position at a rate in excess of the rate in effect for such position on June 30, 1921."

The following rules construing the section of law referred to above have been observed in passing upon the cases affected:

"1. Where the work of two or more positions has been combined since June 30, 1921, so as to place a substantial portion of the work on one position, the salary that may be paid is limited by the highest salary of any of the positions combined.

"2. Where an employee is transferred from one department, division, or bureau to another, together with a substantial portion of the work attached to such employee's position, the salary rate may be transferred with the position.

"3. Mere increase of work does not constitute authority for change of designation of the position or increase of salary.

"4. To constitute an emergency justifying the creation of a new position at a higher rate of salary than was authorized on June 30, 1921, there must be some condition involving a change of more than mere increase of routine duties, and in such cases a full and complete memorandum of all of the facts should be in the files to serve as the basis of a report to the General Accounting Office should such increase be questioned by the Accounting Officers in Washington."

Each employee reduced as the result of the provisions of the law will be furnished a copy of this circular, together with a copy of the General Order on which his name appears.

It is not intended that any employee shall suffer a reduction in pay by misinterpretation of the law and if grounds are found to be proper under the law for restoring the pay in any cases after this office has had an opportunity to review them, the change will be made retroactive to July 1, 1922.

In administering the provisions of law cited above, Panama Railroad employees will be accorded the same treatment as employees carried on Panama Canal rolls.

JAY J. MORROW,  
Governor.

## Postal Addresses of The Panama Canal.

The postal address is, "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

## MOVEMENTS OF OCEAN VESSELS.—Continued from page 637.

PORT OF CRISTOBAL—continued.

| *ARRIVALS.      |             |                                 |                         | *DEPARTURES.    |                     |                                 |                                   |
|-----------------|-------------|---------------------------------|-------------------------|-----------------|---------------------|---------------------------------|-----------------------------------|
| Date.           | Vessel.     | Line.                           | From—                   | Date.           | Vessel.             | Line.                           | For—                              |
| July 26.        | Metapan.    | United Fruit Co.                | New York via Kingston.  | July 27.        | Cartago.            | United Fruit Co.                | New Orleans via Tela and Ilabana. |
| July 27.        | Tivives.    | United Fruit Co.                | Colombian ports.        | July 27.        | Metapan.            | United Fruit Co.                | Colombian ports.                  |
| July 27.        | Turrialba.  | United Fruit Co.                | Bocas del Toro.         | July 27.        | Tivives.            | United Fruit Co.                | New York via Kingston.            |
| July 28.        | Venezuela.  | Royal Netherlands W. I. Mail.   | Amsterdam via wayports. | July 27.        | Turrialba.          | United Fruit Co.                | New Orleans.                      |
| July 28.        | Eupatoria.  | Puerto Barrios.                 | Norfolk.                | July 28.        | Eupatoria.          | Hamburg-American Line.          | Cartagena.                        |
| July 28.        | Cristobal.  | Panama Railroad Steamship Line. | Tampico.                | July 28.        | Venezuela.          | Royal Netherlands W. I. Mail.   | Port Limon.                       |
| July 28.        | Sokuna.     | Pacific Mail Steamship Co.      | Liverpool via wayports. | July 29.        | Gen. W. C. Gorgas.  | Panama Railroad Steamship Line. | New York via Haiti.               |
| July 29.        | Antillan.   | Leyland Line.                   |                         | July 29.        | Guarde Costa No. 2. | Colombian Government.           | Cartagena.                        |
| PORT OF BALBOA. |             |                                 |                         | PORT OF BALBOA. |                     |                                 |                                   |
| July 22.        | Seiyo Maru. | Toyoko Kisen Kaisha.            | Hongkong.               | July 24.        | Seiyo Maru.         | Toyoko Kisen Kaisha.            | Valparaiso.                       |
| July 23.        | Rosana.     | A. Falt.                        | Punta Arenas, C. R.     | July 24.        | Rosana.             | A. Falt.                        | Punta Arenas, C. R.               |
| July 25.        | Anyo Maru.  | Toyoko Kisen Kaisha.            | Valparaiso.             | July 25.        | Anyo Maru.          | Toyoko Kisen Kaisha.            | Honkong.                          |
| July 25.        | Regulus.    | San Antonio.                    | Valparaiso.             | July 27.        | Regulus.            | A. O. Lindvig.                  | Los Angeles.                      |
| July 25.        | Depere.     | U. S. Shipping Board.           | Valparaiso.             | July 27.        | Depere.             | U. S. Shipping Board.           | San Francisco.                    |
|                 |             |                                 |                         | July 28.        | Sinaloa.            | A. O. Lindvig.                  | San Francisco.                    |

\*Other than ships passing through the Canal.



# THE PANAMA CANAL RECORD

OFFICIAL PUBLICATION OF THE PANAMA CANAL.

PUBLISHED WEEKLY.

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*Certificate.*—By direction of the Governor of The Panama Canal the matter contained herein is published as statistical information and is required for the proper transaction of the public business.

Volume XV.

Balboa Heights, C. Z., August 9, 1922.

No. 52.

## Canceling Special Prices for Coal in Large Quantities.

THE PANAMA CANAL, EXECUTIVE DEPARTMENT,

BALBOA HEIGHTS, C. Z., August 5, 1922.

*To all concerned*—Effective August 16, 1922, special prices for coal taken in large quantities, as specified in paragraph 11, item 21, of Panama Canal Tariff No. 6, will be canceled.

These special prices were established at less than actual cost for the purpose of offering inducements for the purchase of large quantities of coal in order to reduce the quantity of stock on the Isthmus. Due to shortage of coal at Atlantic ports of the United States, it is not considered advisable to continue these reduced prices, although regular prices are still maintained at former figures, which are approximately cost figures to the Panama Railroad Company for handling such coal.

JAY J. MORROW,  
*Governor.*

## Canal Traffic for July, 1922.

A total of 251 ocean-going commercial vessels transited the Canal during the month of July, 1922. Tolls on these vessels aggregated \$1,094,127.42 as compared with \$933,290.42 for 228 vessels in the preceding month and \$804,503.11 tolls for 206 vessels in the month of July last year.

In addition to the above commercial traffic, transit was made by 2 small launches, on which tolls of \$5.25 were paid, and 14 U. S. Government vessels passed through the Canal free of tolls.

The increase in tolls over the month of June was due, entirely, to the increased volume of traffic from Pacific to Atlantic ports as the Atlantic to Pacific traffic was slightly under that of the preceding month.

Shipments of wheat and sugar were chiefly responsible for the increased Pacific to Atlantic traffic; 14 full cargoes of wheat passed through the Canal bound from the west coast of the United States and Canada to European ports and 4 cargoes of sugar made the transit, en route from the Philippines to the east coast of the United States, while additional shipments of both commodities helped to make up the loading of a number of vessels transiting the Canal during the month with mixed cargoes.

## Visit of Japanese Training Squadron.

The training squadron of the naval school of the Japanese Navy, consisting of the cruisers *Asama*, *Idzumo*, and *Iwate*, with a total personnel of 2,412, in command of Vice Admiral *Tanaguchi*, arrived at Balboa in the morning of August 5. On August 7 the squadron passed through the Canal to Cristobal, where it will lie until August 11, when it will clear for South American ports. The squadron will visit the centennial exposition at Rio de Janeiro.

## MOVEMENTS OF OCEAN VESSELS.

Week ending at midnight, August 5, 1922.

THROUGH THE CANAL—ATLANTIC TO PACIFIC.

| Ship.                     | Arrived at port. |       | Entered Canal. |       | Completed transit. |       | Cleared for sea. |       | Nationality. | Line.                                | Length. | Beam. | Salt water draft. | From—         | For—           | Cargo.          |        | Panama Canal tonnage. |        |
|---------------------------|------------------|-------|----------------|-------|--------------------|-------|------------------|-------|--------------|--------------------------------------|---------|-------|-------------------|---------------|----------------|-----------------|--------|-----------------------|--------|
|                           | Day.             | Hour. | Day.           | Hour. | Day.               | Hour. | Day.             | Hour. |              |                                      |         |       |                   |               |                | Nature.         | Tons.  | Gross.                | Net.   |
| Huntsman.....             | 29               | 18.48 | 30             | 6.40  | 30                 | 14.10 | 30               | 15.36 | British.     | Harrison Line.                       | 482.0   | 58.0  | 26.0              | Immingham.    | San Francisco. | General.        | 6,600  | 9,256                 | 6,534  |
| Ares.....                 | 29               | 10.58 | 30             | 7.49  | 30                 | 15.05 | 31               | 1.25  | Dutch.       | Royal Netherlands W. I. Mail.        | 341.0   | 48.0  | 15.8              | Amsterdam.    | Guayaquil.     | General.        | 1,850  | 3,195                 | 2,981  |
| Kronstad.....             | 29               | 11.00 | 30             | 11.23 | 30                 | 17.35 | 30               | 19.10 | Norwegian.   | Rederi Grefstad                      | 331.0   | 46.0  | 14.0              | Norfolk.      | Tucuman.       | Ballast.        | 2,948  | 2,091                 | 2,091  |
| Skipsen.....              | 30               | 17.00 | 31             | 6.28  | 31                 | 14.09 | 31               | 15.23 | British.     | Brown Atkinson.                      | 375.0   | 51.0  | 25.0              | New York.     | Fusan.         | General.        | 6,600  | 5,218                 | 3,741  |
| City of Ran-<br>goon..... | 30               | 17.15 | 31             | 7.35  | 31                 | 15.09 | 31               | 16.10 | British.     | Ellerman Lines, Ltd.                 | 443.0   | 55.3  | 19.6              | Hull.         | Vancouver.     | General.        | 760    | 7,940                 | 6,068  |
| Manju Maru.....           | 30               | 9.22  | 31             | 7.40  | 31                 | 15.46 | 31               | 18.12 | Japanese.    | Teikoku Senjin Kabushiki Kaisha      | 420.0   | 54.0  | 20.5              | Aarhus.       | Los Angeles.   | Ballast.        | 6,666  | 4,550                 | 4,550  |
| Missourian.....           | 30               | 21.25 | 31             | 9.24  | 31                 | 16.36 | 31               | 18.12 | American.    | American-Hawaiian Line.              | 445.0   | 59.8  | 25.10             | New York.     | Portland.      | General.        | 7,014  | 8,567                 | 6,029  |
| Mayebashi<br>Maru.....    | 31               | 7.55  | 31             | 12.40 | 31                 | 19.36 | 31               | 20.53 | Japanese.    | Nippon Yusen Kaisha.                 | 445.0   | 58.0  | 25.0              | New York.     | Yokohama.      | General.        | 7,425  | 8,012                 | 5,749  |
| Australmeed.....          | 31               | 16.57 | 1              | 6.35  | 1                  | 14.22 | 1                | 15.45 | British.     | Australian Government.               | 381.0   | 51.0  | 19.0              | London.       | Brisbane.      | General.        | 1,400  | 5,503                 | 3,992  |
| Caddo.....                | 31               | 20.38 | 1              | 7.45  | 1                  | 15.25 | 1                | 19.00 | American.    | Standard Oil Co.                     | 414.0   | 55.0  | 27.0              | Tampico.      | Pisagua.       | Oil.            | 8,000  | 6,437                 | 4,442  |
| Myriam.....               | 31               | 15.50 | 1              | 8.00  | 1                  | 17.36 | 1                | 18.40 | French.      | Comp. Aux. Nav.                      | 425.0   | 57.0  | 26.5              | Port Arthur.  | Shanghai.      | Oil.            | 9,000  | 7,178                 | 5,072  |
| River Trent.....          | 1                | 7.14  | 1              | 9.35  | 1                  | 18.31 | 3                | 17.45 | British.     | D. R. Llewellyn & Co.                | 348.8   | 50.5  | 21.0              | Mobile.       | Callao.        | Coke and coal.  | 5,074  | 3,986                 | 2,955  |
| Hualaga.....              | 24               | 19.05 | 1              | 11.08 | 1                  | 19.09 | 1                | 20.15 | Peruvian.    | Peruvian Line.                       | 360.0   | 44.7  | 20.7              | Cristobal.    | Guayaquil.     | General.        | 613    | 4,514                 | 2,385  |
| Imperial.....             | 28               | 14.15 | 1              | 11.24 | 1                  | 19.15 | 2                | 1.58  | Chilean.     | Chilean Line.                        | 336.2   | 41.2  | 21.0              | Cristobal.    | Valparaiso.    | General.        | 279    | 3,296                 | 2,156  |
| Plendes.....              | 1                | 13.04 | 1              | 13.15 | 1                  | 20.14 | 1                | 21.45 | American.    | Lockenbach Line.                     | 331.5   | 47.0  | 22.0              | Mobile.       | Seattle.       | General.        | 4,080  | 4,147                 | 3,259  |
| G. Harrison<br>Smith..... | 1                | 13.30 | 2              | 6.25  | 2                  | 20.55 | 3                | 2.50  | British.     | International Petroleum Co.          | 530.6   | 72.0  | 32.9              | Puerto Lobos. | Antofagasta.   | Crude oil.      | 18,500 | 15,476                | 11,102 |
| Santa Teresa.....         | 1                | 15.57 | 2              | 7.32  | 2                  | 14.34 | 2                | 19.25 | American.    | Grace Line.                          | 360.2   | 51.0  | 25.3              | New York.     | Talcahuano.    | General.        | 3,318  | 5,726                 | 4,086  |
| Orari.....                | 1                | 18.05 | 2              | 9.10  | 2                  | 21.16 | 3                | 1.10  | British.     | New Zealand Shipping Co.             | 400.0   | 60.0  | 29.0              | Liverpool.    | Auckland.      | General.        | 7,500  | 9,827                 | 6,895  |
| Port Campbell.....        | 2                | 9.46  | 2              | 11.03 | 2                  | 21.03 | 2                | 22.20 | British.     | Commonwealth and Dom. Line.          | 480.8   | 62.0  | 34.4              | Glasgow.      | Auckland.      | General.        | 3,282  | 10,712                | 7,904  |
| Steel Scientist.....      | 2                | 12.30 | 2              | 11.40 | 2                  | 21.32 | 2                | 23.05 | American.    | U. S. Steel Products Co.             | 424.2   | 55.2  | 26.10             | Baltimore.    | Seattle.       | Steel products. | 8,577  | 7,611                 | 5,454  |
| Rio Gatun.....            | 1                | 12.12 | 2              | 12.38 | 2                  | 12.38 | 2                | 12.38 | Panaman.     | A. R. Eckhart.                       | 440.0   | 55.0  | 22.0              | Cristobal.    | Satum Lake.    | Naval stores.   | 341    | 5,370                 | 3,810  |
| Aronne.....               | 2                | 16.12 | 3              | 6.20  | 3                  | 13.53 | 4                | 16.40 | American.    | U. S. Navy.                          | 370.3   | 48.7  | 28.2              | New York.     | San Diego.     | General.        | 7,557  | 9,946                 | 6,115  |
| Satsuma.....              | 2                | 10.55 | 3              | 7.25  | 3                  | 16.06 | 3                | 17.25 | American.    | Barber Line.                         | 475.0   | 60.0  | 29.0              | New York.     | Manila.        | General.        | 8,000  | 13,476                | 11,102 |
| Tenore.....               | 2                | 10.55 | 3              | 8.08  | 3                  | 14.57 | 3                | 16.20 | British.     | Hain Steamship Co.                   | 550.2   | 72.3  | 32.5              | New York.     | Auckland.      | Ballast.        | 5,697  | 6,310                 | 4,398  |
| Belthore.....             | 3                | 23.45 | 3              | 9.00  | 3                  | 17.20 | 3                | 17.52 | American.    | Ore Steamship Corp.                  | 400.0   | 53.2  | 17.6              | New York.     | Cruz Grande.   | General.        | 2,853  | 6,167                 | 4,313  |
| Rey Maru.....             | 3                | 6.20  | 3              | 11.05 | 3                  | 18.18 | 3                | 21.25 | Japanese.    | Toyoko Kisen Kaisha.                 | 380.0   | 53.2  | 17.6              | Hankow.       | Hongkong.      | General.        | 124    | 2,878                 | 1,714  |
| Cold Harbor.....          | 3                | 5.03  | 4              | 6.32  | 4                  | 13.39 | 4                | 14.50 | American.    | N. Atl. & Western S. S. Co. (S. B.). | 330.0   | 43.0  | 15.3              | Philadelphia. | Los Angeles.   | General.        | 6,432  | 7,217                 | 5,295  |
| Almagro.....              | 3                | 5.45  | 4              | 7.25  | 4                  | 14.44 | 4                | 16.00 | British.     | MacAndrews & Co.                     | 435.0   | 53.8  | 24.6              | New York.     | Guayaquil.     | General.        | 4,826  | 8,120                 | 5,898  |
| Lepa Lucken-<br>bach..... | 4                | 6.42  | 4              | 8.50  | 4                  | 15.55 | 4                | 17.00 | American.    | Lockenbach Line.                     | 425.0   | 53.8  | 24.6              | Boston.       | Seattle.       | General.        | 4,065  | 4,419                 | 3,280  |
| Knight Templar.....       | 4                | 8.46  | 4              | 10.30 | 4                  | 16.53 | 4                | 17.00 | British.     | Alfred Holt & Co.                    | 470.1   | 58.0  | 24.6              | New York.     | Shanghai.      | General.        | 727    | 1,273                 | 706    |
| Redondo.....              | 5                | 3.37  | 5              | 6.30  | 5                  | 14.24 | 5                | 15.25 | American.    | Pacific Steamship Co.                | 341.0   | 33.2  | 22.10             | New Orleans.  | Seattle.       | General.        |        |                       |        |
| Acajutla.....             | 7-30             | 13.40 | 5              | 7.31  | 5                  | 14.39 | 5                | 23.20 | British.     | Reliance Steam Navigation Co.        | 215.7   | 33.9  | 15.3              | Cristobal.    | Champerico.    | General.        |        |                       |        |

\* Launch.

\* U. S. Navy transport.

\* Machinery, railroad material, cotton goods, cement, structural material, and general.

\* Cotton, oil, steel, and general.

\* Steel, cotton, and general.

|                      |   |       |   |       |   |       |   |       |               |                        |       |      |      |                    |                    |       |       |
|----------------------|---|-------|---|-------|---|-------|---|-------|---------------|------------------------|-------|------|------|--------------------|--------------------|-------|-------|
| Cowboy.....          | 5 | 10 05 | 5 | 10 15 | 5 | 16 56 | 5 | 18 25 | American..... | Fred J. Gauntlett..... | 253.4 | 43.6 | 19.0 | San Francisco..... | General coal.....  | 1,750 | 2,765 |
| Coveva.....          | 5 | 8 10  | 5 | 12 43 | 5 | 20 45 | 5 | 22 04 | American..... | Hammond Lumber Co..... | 253.4 | 43.7 | 22.6 | San Francisco..... | General.....       | 3,014 | 2,765 |
| Henry D. Whiton..... | 5 | 7 17  | 5 | 13 18 | 5 | 19 55 | 5 | 21 05 | American..... | Union Sulphur Co.....  | 356.0 | 51.6 | 25.6 | Los Angeles.....   | Crude sulphur..... | 6,500 | 5,367 |

## THROUGH THE CANAL—PACIFIC TO ATLANTIC.

| Acapulco.....            | 29 | 16 45 | 30 | 7 15  | 30 | 13 40 | 5  | 7 31  | British.....  | Pacific Steam Navigation Co..... | 215.7 | 33.5 | 14.0 | Champerico.....    | Cristobal.....         | 465    | 1,273 |
|--------------------------|----|-------|----|-------|----|-------|----|-------|---------------|----------------------------------|-------|------|------|--------------------|------------------------|--------|-------|
| Canadian Miller.....     | 29 | 21 30 | 30 | 7 42  | 30 | 15 44 | 30 | 17 00 | British.....  | Canadian Government.....         | 400.0 | 52.0 | 18.5 | Auckland.....      | New York.....          | 2,350  | 5,892 |
| Eagle.....               | 30 | 5 00  | 30 | 8 53  | 30 | 16 22 | 31 | 2 20  | American..... | Standard Oil Co.....             | 410.0 | 56.0 | 24.0 | San Pedro.....     | Boston.....            | 6,917  | 8,243 |
| Patrick Henry.....       | 30 | 8 15  | 30 | 11 03 | 30 | 18 12 | 30 | 22 27 | American..... | U. S. Shipping Board.....        | 439.0 | 59.6 | 27.0 | Yokohama.....      | New York.....          | 578    | 8,987 |
| Admiral.....             | 31 | 10 15 | 31 | 10 09 | 31 | 18 39 | 31 | 21 35 | American..... | Standard Oil Co.....             | 449.5 | 60.9 | 27.0 | Talara.....        | Rotterdam.....         | 10,352 | 8,612 |
| Benlowes.....            | 31 | 10 55 | 31 | 12 46 | 31 | 20 03 | 31 | 21 12 | British.....  | Ben Line.....                    | 378.0 | 46.1 | 23.8 | Portland.....      | Queensdown.....        | 5,025  | 4,246 |
| Apple Branch.....        | 31 | 20 05 | 1  | 6 48  | 1  | 13 10 | 1  | 17 10 | British.....  | Federal W. Risson.....           | 376.0 | 51.7 | 24.0 | Corral.....        | Liverpool.....         | 5,830  | 5,112 |
| Suffolk.....             | 1  | 4 00  | 1  | 8 04  | 1  | 15 10 | 2  | 00 00 | British.....  | Federal Steamship Co.....        | 460.0 | 58.0 | 23.6 | Sydney.....        | Wheat, general.....    | 3,511  | 3,008 |
| Chaumont.....            | 31 | 21 40 | 1  | 9 11  | 1  | 15 57 | 2  | 22 50 | American..... | U. S. Government.....            | 436.9 | 58.2 | 22.0 | San Francisco..... | Cold storage, etc..... | 4,416  | 9,016 |
| Michigan.....            | 1  | 4 05  | 1  | 9 55  | 1  | 18.05 | 2  | 13 30 | French.....   | French Line.....                 | 412.5 | 55.5 | 26.0 | San Francisco..... | Navy stores.....       | 30     | 30    |
| Florence Luckenbach..... | 1  | 7 30  | 1  | 10 48 | 1  | 17 45 | 1  | 17 45 | American..... | Luckenbach Line.....             | 401.8 | 52.0 | 20.6 | San Francisco..... | General.....           | 8,505  | 6,928 |
| Hoyasun Maru.....        | 1  | 9 00  | 1  | 12 04 | 1  | 19 11 | 1  | 21 00 | Japanese..... | Mitsui & Co.....                 | 407.0 | 51.1 | 25.7 | San Francisco..... | General.....           | 3,771  | 6,002 |
| Willsolo.....            | 1  | 13 30 | 1  | 14 19 | 1  | 22 30 | 1  | 22 30 | American..... | Williams Steamship Co.....       | 434.3 | 57.7 | 24.0 | Portland.....      | Lumber.....            | 7,550  | 6,189 |
| No. 32.....              | 1  | 13 45 | 2  | 10 45 | 2  | 20 25 | 2  | 20 25 | American..... | U. S. Navy.....                  | 230.0 | 30.0 | 14.0 | Los Angeles.....   | General.....           | 7,115  | 7,983 |
| Scota and submarine..... | 2  | 10 52 | 2  | 10 52 | 2  | 20 42 | 2  | 20 42 | American..... | U. S. Navy.....                  | 149.3 | 20.0 | 10.0 | Balboa.....        | Cristobal.....         | 8,893  | 6,899 |
| Texas Maru.....          | 2  | 10 30 | 2  | 11 33 | 2  | 20 45 | 2  | 20 45 | Japanese..... | Kokusa Kisen Kaisha.....         | 425.0 | 54.0 | 27.6 | San Francisco..... | Barley.....            | 5,581  | 6,132 |
| Lehigh.....              | 2  | 11 00 | 2  | 13 43 | 2  | 21 45 | 2  | 21 45 | American..... | U. S. Shipping Board.....        | 390.0 | 54.2 | 24.0 | Seattle.....       | Lumber, general.....   | 5,400  | 6,043 |
| Nagato Maru.....         | 2  | 11 30 | 2  | 13 03 | 2  | 21 45 | 2  | 21 45 | Japanese..... | Nippon Yusen Kaisha.....         | 385.0 | 51.0 | 24.0 | Yokohama.....      | General.....           | 4,417  | 3,329 |
| Nordamerica.....         | 2  | 16 20 | 3  | 7 02  | 3  | 13 55 | 3  | 13 55 | Danish.....   | Norden Steamship Co.....         | 346.0 | 45.2 | 21.2 | New York.....      | General.....           | 4,407  | 5,859 |
| Cauca.....               | 3  | 1 20  | 3  | 7 58  | 3  | 15 40 | 3  | 15 40 | British.....  | Pacific Steam Navigation Co..... | 200.0 | 35.0 | 16.0 | Buenaventura.....  | Coffee, hides.....     | 8,400  | 7,007 |
| Annam.....               | 3  | 6 30  | 3  | 8 55  | 3  | 17 05 | 3  | 20 15 | Danish.....   | Pacific Steam Navigation Co..... | 410.0 | 55.2 | 27.3 | Vancouver.....     | General.....           | 8,400  | 7,007 |
| Astral.....              | 3  | 6 45  | 3  | 8 57  | 3  | 16 00 | 3  | 16 00 | American..... | Standard Transport Co.....       | 439.5 | 58.0 | 22.0 | Darien.....        | Ballast.....           | 5,350  | 5,577 |
| Munaires.....            | 4  | 5 45  | 4  | 7 22  | 4  | 14 04 | 4  | 14 04 | American..... | Munson Line.....                 | 385.0 | 53.0 | 22.6 | Grays Harbor.....  | Lumber.....            | 5,350  | 5,577 |
| Harry Luckenbach.....    | 4  | 6 40  | 4  | 7 59  | 4  | 15 15 | 4  | 15 15 | American..... | Luckenbach Line.....             | 449.9 | 60.2 | 25.6 | San Francisco..... | Lumber, general.....   | 6,500  | 9,269 |
| Floridan.....            | 4  | 7 00  | 4  | 9 03  | 4  | 16 20 | 5  | 11 00 | American..... | American-Hawaiian Line.....      | 429.0 | 53.6 | 21.0 | Seattle.....       | General.....           | 4,727  | 7,273 |
| Independence.....        | 4  | 12 20 | 4  | 13 11 | 4  | 21 20 | 5  | 15 20 | American..... | U. S. Shipping Board.....        | 440.0 | 56.0 | 23.2 | Kobe.....          | General.....           | 6,023  | 8,200 |
| Mantaro.....             | 4  | 23 00 | 5  | 8 10  | 5  | 15 04 | 5  | 15 20 | Peruvian..... | Peruvian Line.....               | 367.3 | 46.0 | 17.6 | Ho.....            | General.....           | 1,708  | 4,858 |

Hours are expressed on the 24-hour basis and all hours greater than 12 are postmeridian.

## PORT OF CRISTOBAL.

## \*ARRIVALS.

## \*DEPARTURES.

| Date.....    | Vessel.....    | From.....               | Date.....    | Vessel.....    | Line.....                      | For.....             |
|--------------|----------------|-------------------------|--------------|----------------|--------------------------------|----------------------|
| July 30..... | Calamares..... | Port Limon.....         | July 30..... | Calamares..... | United Fruit Co.....           | New York via Habana. |
| July 30..... | Atenas.....    | New Orleans via Habana. | July 31..... | Solana.....    | Pacific Mail Steamship Co..... | Tampico.             |
| July 31..... | Heredia.....   | New Orleans.            | July 31..... | Atenas.....    | United Fruit Co.....           | Bocas del Toro.      |

(Continued on page 648, column 2.)



### Increasing Facilities for Oil and Gasoline Storage.

The West India Oil Co. has leased an additional lot in the oil tank farm at Balboa, the Pacific terminus of the Canal, for the erection of a tank of 50,000 barrels capacity for the storage of gasoline.

The United States Navy has leased 3 lots at Balboa and 3 at Cristobal, for six 50,000-barrel fuel oil tanks, and the work of grading the sites and preparing the foundations for the erection of the tanks is in progress.

With the new tanks, the storage capacity of the terminals will be: Fuel oil, 35 tanks, 1,726,041 barrels; Diesel oil, 2 tanks, 59,992 barrels; gasoline, 3 tanks, 60,786 barrels. The total tanks in service will be 40, with an aggregate capacity of 1,846,819 barrels.

Not including the new tanks, which are not yet in service, the tanks now in use at the two terminals for fuel and Diesel oil are as follows:

| Owner.                                                 | Cristobal.    |                    | Balboa.       |                    | Total both terminals. |                    |
|--------------------------------------------------------|---------------|--------------------|---------------|--------------------|-----------------------|--------------------|
|                                                        | No. of tanks. | Aggregate storage. | No. of tanks. | Aggregate storage. | No. of tanks.         | Aggregate storage. |
| The Panama Canal.....                                  | 5             | 251,612            | 5             | 199,781            | 10                    | 451,393            |
| Asiatic Petroleum Storage Corp. (Limited), Panama..... | 2             | 110,872            | 2             | 110,584            | 4                     | 221,456            |
| West India Oil Co.....                                 | 2             | 110,000            | 2             | 84,946             | 4                     | 194,946            |
| Union Oil Co. of California.....                       |               |                    | 4             | 149,078            | 4                     | 149,078            |
| Huasteca Petroleum Co.....                             | 3             | 167,581            |               |                    | 3                     | 167,581            |
| The Texas Co.....                                      | 2             | 111,515            |               |                    | 2                     | 111,515            |
| Arrow Oil Co.....                                      | 2             | 110,000            |               |                    | 2                     | 110,000            |
| United Fruit Co.....                                   | 1             | 55,000             |               |                    | 1                     | 55,000             |
| Panama Agencies Co.....                                |               |                    | 1             | 25,064             | 1                     | 25,064             |
| Totals.....                                            | 17            | 916,580            | 14            | 569,453            | 31                    | 1,486,033          |

\* Includes 1 tank of 55,954 barrels used for storage of Diesel oil.

\* Includes 1 tank of 4,038 barrels used for storage of Diesel oil.

Gasoline storage, in addition to the above, is provided by The Panama Canal with a tank of 5,382 barrels (226,028 gallons) at Cristobal, and a tank of 5,404 barrels (226,976) gallons at Balboa.

The Asiatic Petroleum Storage Corporation (Limited), Panama, has taken over the 4 tanks formerly owned and operated by the Panama Canal Storage Corporation. The Arrow Oil Co. has taken over the Pacific Mail Steamship Co.'s 55,000-barrel tank at Cristobal.

### Record Shipment of Crude Oil Through Canal.

The British steamer *G. Harrison Smith*, bound from Puerto Lobos, Mexico, to Antofagasta, Chile, passed through the Canal on August 1, 1922, carrying 132,000 barrels of crude oil, or approximately 18,500 tons. This is the largest shipment of oil to have passed through the Canal to date.

The *G. Harrison Smith* is owned and operated by the International Petroleum Company. She is a vessel of 15,371 tons gross and 9,326 tons net, 550½ feet in length by 72 feet beam. At the time of transit through the Canal her draft was 32 feet 9 inches.

### Damaged Oil Being Returned from Orient.

The steamers *Indian Arrow* and *Yankee Arrow* of the Standard Oil Co., carrying respectively 7,900 and 5,200 tons of refined oils, transited the Canal on July 29, bound to Beaumont, Tex., from Chinese ports. Both vessels were carrying cargoes of refined oils which had be-



come discolored and damaged to such an extent that it was necessary that they be again put through the refining process.

The *Indian Arrow* had last previously passed through the Canal on April 24, 1922, carrying 10,982 tons of refined oil to Taku Bar, and the *Yankee Arrow* on May 3, 1922, carrying 11,031 tons of refined oils to Woosung.

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#### Tariff No. 6.

The Panama Canal has issued "Tariff No. 6—Schedule of Rates for Supplies and Services Furnished to Shipping and Allied Interests at the Panama Canal," superseding Panama Canal Tariff No. 5 and all supplements thereto. Tariff No. 6 is in effect July 1, 1922.

The items listed in the index are as follows:

Ashes, handling; baggage allowance; bakery products; barges (*see* Lighters); basin charge; berth, shifting; bills of health; bills, payment of; cablegrams advising deposits; chandlery, ship; coal; cold storage; collections, agency fee; compressed air, cordage; cramage; craneboats; cranes; customs fees; deck hands; Diesel oil; dispensaries; divers; dry docks; electric current; fire extinguishers, recharging; floating cranes; fruits; fuel oil; garbage; general; groceries; guards, quarantine; guards, rat; handling lines; health, bills of; holiday and Sunday work; hospital treatment; hotels; ice; launches; laundry; lighters; locks, handling lines in; lubricants; measurement of vessels; meats; medical supplies; medical treatment; moorings to buoys; oil; overtime; Panama Railroad-passenger tariff; pangas; physicians; pilotage; provisions and supplies; pumping oil; quarantine; rat guards; repairs; shifting berth; ship chandlery and stores; special Sunday and holiday rates; special trains; stevedoring and transferring cargo; storage on piers; Sunday and holiday work; supplies; switching; telephones; Tivoli Hotel; tolls; trains, special; transferring cargo; tugs and supply boats; vegetables; Washington Hotel; water, whaleboats; wharfage, wrecking cranes; wrecking operations; launches.

Copies of the tariff are furnished without charge to steamship lines and related interests. They are also placed in the offices of American Consular officers, along with other general information about the Panama Canal.

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#### Supplement No. 1 to Tariff No. 6:

THE PANAMA CANAL, PANAMA RAILROAD COMPANY,  
EXECUTIVE OFFICE, BALBOA HEIGHTS, C. Z., July 18, 1922.

##### ITEM 3.—PILOTAGE.

(Effective August 1, 1922.)

5. Port pilotage applies to vessels visiting terminal ports without transiting the Canal; and also to vessels which, in addition to transiting the Canal, stop at either terminal and there receive or discharge passengers or freight. All vessels, including vessels transiting the Canal, using a port in the Canal Zone as a terminus for the discharge of freight or passengers or for the receipt of freight or passengers will be charged port pilotage both on entering and leaving the port. Vessels transiting the Canal and using the port at either end of the Canal solely for the purpose of securing repairs, fuel, or supplies, or for the purpose of allowing through passengers to land or transit the Isthmus by train, will be charged pilotage only for entering the port prior to transiting the Canal, and for leaving the port after having transited the Canal. No charge for pilotage will be made against a vessel solely on account of its acceptance or delivery of mails originating in or destined for the Canal Zone or the Republic of Panama.

##### ITEM 14.—WHARFAGE.

(Effective August 1, 1922.)

6. The foregoing charges for wharfage will be made against vessels handling cargo or passengers either at Cristobal or Balboa as a terminus.  
All other vessels docking at a wharf owned or controlled by The Panama Canal or the Panama Railroad Company for any other purpose than for handling cargo

or passengers as a terminus, will be charged one-half the foregoing rates, except, that no wharfage will be charged for vessels docking at the Coaling Plant solely for the purpose of securing coal.

When a vessel receives or discharges at the Coaling Plant, either at Cristobal or Balboa, one or more tons of cargo, or 10 or more bags of mail, or 3 or more passengers, a charge for wharfage will be made at the regular rates provided in this tariff.

#### ITEM 15.—MOORING TO BUOYS.

(Effective August 1, 1922.)

3. Vessels will be permitted to handle cargo and passengers at mooring buoys, at the discretion of the Receiving and Forwarding Agent.

#### ITEM 18.—STEVEDORING AND TRANSFERRING CARGO.

(Effective August 1, 1922.)

##### 1. Stevedoring:

|                                                                                                                                                     |                  |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|
| (a) General cargo.....                                                                                                                              | per ton..        | \$0.30 |
| (b) Cotton, wool, kapok, hemp, bark, leather, hides, and similar commodities, per ton of 2,000 lbs..                                                |                  | .60    |
| If offered on measurement basis, rate will be the general cargo rate.                                                                               |                  |        |
| (c) Boilers, locomotive parts, machinery, railroad cars, etc., scrap machinery and scrap boilers, etc., and other heavy weights of over 2 tons..... | per ton..        | .50    |
| (d) Structural iron over 35 feet long.....                                                                                                          | per ton..        | .50    |
| (e) Loose brick, conduit, sewer pipe, terra cotta, and tile.....                                                                                    | per ton..        | .50    |
| (f) Loose scrap iron of irregular shape, pieces not over 2 tons.....                                                                                | per ton..        | .60    |
| (g) Lumber, switch and cross ties.....                                                                                                              | per M feet B. M. | 1.00   |
| (h) Rough timber and logs.....                                                                                                                      | per ton..        | .60    |
| (i) Piling.....                                                                                                                                     | per linear foot  | .01    |
| (j) Horses, mules, and donkeys.....                                                                                                                 | per head..       | 1.00   |
| (k) Cattle.....                                                                                                                                     | per head..       | .75    |
| (l) Calves, goats, dogs, hogs, and sheep.....                                                                                                       | per head..       | .50    |
| (m) Live stock, other than above indicated when crated.....                                                                                         | per ton..        | 1.00   |
| (n) Mail, baggage, and specie.....                                                                                                                  | per ton..        | 1.50   |
| (o) Explosives.....                                                                                                                                 | per ton..        | 2.50   |
| (p) Nitrates.....                                                                                                                                   | per ton..        | .50    |

##### 2. Transferring cargo between ships:

|                                                                                                                                                                                                                                                                                   |           |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|
| (c) Mail, baggage, and specie.....                                                                                                                                                                                                                                                | per ton.. | 3.00 |
| (NOTE—When actual weight of mail or baggage (including container) is not shown on ship's papers, ordinary mail (letters and prints) will be handled at an average weight of 40 pounds per sack, parcel post mail at an average of 100 pounds and baggage at 75 pounds per piece.) |           |      |
| (i) Live animals other than the above, when crated.....                                                                                                                                                                                                                           | per ton.. | 2.00 |
| Live animals in transit will not be received before the connecting steamer has berthed unless the delivering carrier has made arrangements for their care, pending the arrival of connecting steamer.                                                                             |           |      |

##### 3. Isthmian cargo:

|                                                                                                                                                                                                          |  |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----|
| (b) Cargo for Colon—(third paragraph):                                                                                                                                                                   |  |     |
| Arrangement for delivery in cars must be made prior to commencement of discharge of cargo, otherwise, a charge will be made for rehandling... per ton..                                                  |  |     |
| (d) The minimum charges specified in paragraph (e) will also apply on cargo transported from Balboa to Panama.                                                                                           |  | .75 |
| (f) By prior arrangements, inward and outward local shipments may be received and delivered at Balboa docks, when, in the opinion of the Receiving and Forwarding Agent, such procedure seems desirable. |  |     |

14. For use of electric winches or industrial trucks, including operators, per hour.. 1.25

16. No change in routing shown on bills of lading will be recognized or followed after check books and papers have been compared by the forces of the Receiving and Forwarding Agent, covering cargo to be discharged at the Atlantic or Pacific terminals. If delivering carriers desire to change routing on such cargo, it will be necessary for them to request the Receiving and Forwarding Agent, in writing, prior to commencement of discharge to make such changes if they desire to avoid rehandling charges. In the event such deviation from the original routing necessitates rehandling of the cargo, a charge of 75 cents per bill of lading ton will be made against the delivering carrier. Instructions of the delivering carrier as to the routing of cargo will be followed only in connection with shipments covered by bills of lading in which no reference whatever is made to the name of the final carrier.

17. Orders for outward cargo must be presented by receiving carriers in writing between 7 a. m. and 4 p. m., at least 6 hours prior to the time ship is ready to receive cargo, in order that there may be ample time to properly prepare papers and cargo check books. Cargo will be delivered or

received from vessels in port during the following working periods, which will not be deviated from except at the discretion of the Receiving and Forwarding Agent in cases of emergency: 7 a. m. to 11 a. m., 12 noon to 4 p. m., and from 5 p. m. to 1 a. m.

JAY J. MORROW,

Governor, *The Panama Canal.*

President, *Panama Railroad Company.*

### Prices of Fuel Oil and Diesel Oil.

The Union Oil Company of California advises that its current prices for fuel oil and Diesel oil at representative Pacific ports of the United States are as follows:

| Stations.                              | Fuel oil.   | Diesel oil. |
|----------------------------------------|-------------|-------------|
|                                        | Per barrel. | Per gallon. |
| Seattle.....                           | \$1.38      | \$0.04225   |
| San Francisco.....                     | 1.08        | .03375      |
| Olcum Refinery, San Francisco Bay..... | 1.00        | .03125      |
| Los Angeles—San Pedro.....             | 1.00        | .03125      |
| San Diego.....                         | 1.15        | .....       |
| Honolulu.....                          | 1.65        | .04625      |

### Ships at Canal Repair Shops.

The following vessels and marine equipment were at the Balboa shops for repairs during the week ended August 5:

Steamship *Pennsylvanian*, dry-dock ship for repairs to propeller; change 4 broken and bent propeller blades, using spares aboard ship; renew 8 studs; repack stern tube gland; braze steam pipe for winch; weld leaky rivets and calk seams on stern frame; motor ship *Alsace*, furnish services of diver to cut rope off of propeller and tail shaft, and to repack gland; Colombian coast guard cutter *No. 3*, remove machinery; hoist boat on dock for general repairs to hull, machinery, and deck houses; U. S. submarine *O-16*, dry-dock, clean, and paint; change main motors; install new mufflers, furnished; overhaul C. and R. air compressors; overhaul all ventilation; remove hydroplane and install larger bowplanes; make annual repairs to hull and machinery; and put 10 pounds air pressure on all compartments to test for leaks.

The following vessels were at the Cristobal shops for repairs during the week ended August 7:

Steamship *Venezuela*, manufacture connecting rod; repair pipes in galley, ice box, overflow tank; and copper pipe on main steam line to winches; roll tubes, calk seams and rivets; weld air duct tubes, etc., in boilers; repack superheaters; make smoke boxes air-tight, etc.; U. S. S. *O-15*, renew 2 forward plates on side of superstructure with fittings complete; remove hydroplanes; clean and paint underwater hull; grind-in all valves; make minor structural repairs; take stern tube and strut bearing clearances and repack stern tube glands; calibrate all gauges; repair ballast pump, water-tight doors in bulkhead frame and battery vent ducts; clean, paint, and test all ballast, trimming, and fuel tanks; install standard air salvage system, recognition signal ejector, indicators on all ventilating valves, and larger bow planes, etc.; U. S. Army tanker *No. 1*, repair steam steering gear, hand steering gear, steering wheel, dynamo engines, ice machine, and main engine crosshead brasses, and hatches, etc.; steamships *Cauca*, repair ballast pump; feed pump, windlass, and refrigerator engine; *Advance*, repair Nos. 1 and 2 winches; manufacture and install new brasses in anchor windlass; repair plumbing, fireroom tools, and hand pump from No. 2 tank, etc.; *Conde de Churruca*, *Manitaro*, *Stuyvesant*, *Puerto Rico*, *Cold Harbor*, *Panama*, *Advance*, and gunboat *Bravo*, minor repairs.

### Postal and Cable Addresses of The Panama Canal.

The postal address is "The Panama Canal, Balboa Heights, Canal Zone," or "The Panama Canal, Washington, D. C."

Mail for ships passing through the Canal or touching at either of the terminal ports should be addressed to "Cristobal, Canal Zone."

The cable address of The Panama Canal, on the Isthmus, is "Pan canal, Panama;" in the United States, "Pan canal, Washington."



### Current Net Prices on Fuel Oil, Diesel Oil, and Coal.

Crude fuel oil is delivered to vessels at either Cristobal or Balboa for \$1.70 per barrel\* of 42 gallons.

Diesel oil is sold at \$3.50 per barrel.

Coal is supplied to steamships, including warships of all nations, delivered and trimmed in bunkers at \$12 per ton of 2,240 pounds at Cristobal and \$15 at Balboa. For ships in transit through the Canal, which are directed to take coal at Balboa, for the convenience of The Panama Canal, \$12 per ton at Balboa. When coal is delivered from lighters in quantities of 50 tons or more, the price is \$13 per ton at Cristobal, \$16 at Balboa. For delivering lump coal for galley use, in sacks, \$12 additional per ton; but if vessel furnishes sacks, \$5 per ton additional.

For coal in large quantities as specified below, taken from alongside coaling plants:

(a) To vessels taking 1,200 tons or over;

(b) To vessels taking between 825 and 1,200 tons and bunkering full;

(c) To vessels taking 825 or more tons and more than quantity required to bunker full;

Price to the above three classes, per ton of 2,240 pounds, \$10 at Cristobal, \$13 at Balboa.

(d) To vessels taking between 688 tons and 825 tons and bunkering full, the charge will be for 825 tons at prices specified in paragraph (c).

(e) To vessels requiring 825 tons to 1,200 tons to bunker full and taking less than quantity required to bunker full, the maximum charge for the coal taken will be the quantity required to bunker full at prices specified in paragraph (c).

(f) If all or any part not less than 50 tons of the lots authorized to be sold at the coaling plant at the reduced prices named above, is delivered in lighters, the additional charge for such coal delivered in lighters will be, per ton of 2,240 pounds, \$1.

(g) If less than 50 tons are delivered in lighters, paragraph 4 of Supplement No. 11 to Tariff No. 5 will apply (\$15 at Cristobal, \$18 at Balboa).

(h) The Cristobal rates will apply to coal for vessels transiting the Canal, taken at Balboa by direction of The Panama Canal.

Coal for cargo is sold only by special authority of the Governor, at prices quoted upon application.

For trimming on deck, between decks, or special trimming in bunkers for convenience of vessel, when requested, an additional charge of 90 cents per ton will be made for extra handling.

\* These prices will be canceled, effective August 16, 1922.

### Publication of Notices and Circulars of Interest to Shipping.

All of the Panama Canal notices to mariners, notices to steamship lines and general circulars of interest to shipping in its relation to the Canal are published in THE PANAMA CANAL RECORD. For this reason it is considered unnecessary to make a separate general distribution, away from the Isthmus, of such notices and circulars to those receiving THE PANAMA CANAL RECORD. Shipping interests are advised to look for them in this paper, which is supplied to them without charge.

### Trips Through the Canal.

The following lines operating passenger vessels through the Canal carry local passengers from one terminal to the other: Pacific Mail Steamship Company, Pacific Steam Navigation Company, Grace Line, South American Steamship Company (Chilean Line). The Pacific Mail charges \$6 for the trip, the others \$10. The several services together afford about 5 transits of the Canal each way every week.

### MOVEMENTS OF OCEAN VESSELS.—Continued from page 643.

PORT OF CRISTOBAL—continued.

| *ARRIVALS. |                |                                 |                           | *DEPARTURES.    |              |                                 |                           |
|------------|----------------|---------------------------------|---------------------------|-----------------|--------------|---------------------------------|---------------------------|
| Date.      | Vessel.        | Line.                           | From—                     | Date.           | Vessel.      | Line.                           | For—                      |
| July 31.   | Venezuela.     | Royal Netherlands W. I. Mail.   | Port Limon.               | August 1.       | Venezuela.   | Royal Netherlands W. I. Mail.   | Amsterdam via wayports.   |
| August 1.  | Puerto Rico.   | French Line.                    | St. Nazaire and wayports. | August 2.       | Antifian.    | Leyland Line.                   | New Orleans.              |
| August 2.  | Pastores.      | United Fruit Co.                | New York via Hahaga.      | August 3.       | Pastores.    | United Fruit Co.                | Port Limon.               |
| August 3.  | Panama.        | Panama Railroad Steamship Line. | New York via Haiti.       | August 3.       | Atenas.      | United Fruit Co.                | Port Limon.               |
| August 3.  | Sixola.        | United Fruit Co.                | New York via Kingston.    | August 3.       | Itordia.     | United Fruit Co.                | New Orleans and wayports. |
| August 3.  | Metapan.       | United Fruit Co.                | Colombian ports.          | August 3.       | Sixola.      | United Fruit Co.                | Colombian ports.          |
| August 3.  | Atenas.        | United Fruit Co.                | Bocas del Toro.           | August 3.       | Metapan.     | United Fruit Co.                | New York and Kingston.    |
| August 4.  | Bravo.         | Mexican Government.             | Vera Cruz.                | August 3.       | Cristobal.   | Panama Railroad Steamship Line. | Norfolk.                  |
| August 4.  | Coahuila.      | Mexican Government.             | Vera Cruz.                | August 3.       | Puerto Rico. | French Line.                    | St. Nazaire and wayports. |
| August 5.  | William Green. | Pan-American Pet. Transp. Co.   | Tampico.                  |                 |              |                                 |                           |
| August 5.  | Canden.        | United Fruit Tanker Corp.       | Tampico.                  |                 |              |                                 |                           |
| August 5.  | Galveston.     | United States Navy.             | Key West.                 |                 |              |                                 |                           |
| * Gunboat. |                |                                 |                           | PORT OF BALBOA. |              |                                 |                           |
| July 31.   | Oneka.         | Standard Transport Co.          | Shanghai.                 | July 31.        | Onoka.       | Standard Transport Co.          | Talal.                    |
| August 1.  | Meriden.       | General Steamship Corp.         | Iquique.                  |                 |              |                                 |                           |

\* Other than ships passing through the Canal.















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