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AMERICAN COPPER PRODUCTION

DATA ON AMERICAN COPPER PRODUCTION AND HISTORY OF A COPPER TARIFF AND OTHER COPPER TARIFF DETAILS

BY

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Consulting Mining Engineer

PRESENTED BY MR. ASHURST

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EXECUTIVE OFFICE, STATE HOUSE,
Phoenix, Ariz., May 20, 1931.

DEAR MR. VAN DYKE: I am this day naming an Arizona Copper Tariff Commission to be composed of the following: C. W. Van Dyke, chairman; J. W. Strode, secretary; Lem Shattuck, member; Sam Morris, member; John G. Flynn, member.

I have also named an advisory council of approximately 100 members comprised of leading citizens of Arizona. I have chosen this commission because of the experience and knowledge of the men composing it, of the subject matter which it will be their duty and function to handle.

Your work is an important and vital one for the welfare of our State. Your duties will be arduous and difficult. The proper functioning of your body and the obtaining of the aim sought necessarily will involve a heavy sacrifice of your time, thought, and energy on behalf of the State.

There are no State funds available for carrying on this work. Your reward will lie in the satisfaction that must come from the knowledge that you have performed a valuable and useful work for Arizona. I am relying upon your public spirit and loyalty to our State to carry forward the campaign for tariff protection against copper entering the United States from abroad. The free entry of foreign produced metal threatens the extinction of the great copper-mining industry of Arizona, with much consequent suffering to our people and heavy losses to our State.

Very sincerely yours,

GEO. W. H. HUNT,
Governor.

MR. C. W. VAN DYKE,
Chairman, Arizona Copper Tariff Commission,
Miami, Ariz.

ARIZONA COPPER TARIFF COMMISSION,
Miami, Ariz., May 28, 1931.

Hon. HOVAL A. SMITH,
Warren, Ariz.

DEAR MR. SMITH: On the 20th of this month Governor Hunt appointed the undersigned to constitute the members of the Arizona Copper Tariff Commission.

Our duties are to aid in the work of securing a tariff on foreign copper imported into the United States coming in competition with our domestic produced copper, and to cooperate with other organizations and individuals having this same end as their object.

We find very little reliable data, concerning the necessity of a copper tariff, compiled in a form that is available for ready reference.

This commission desires to obtain the facts affecting the copper mining and smelting industry, compiled in a convenient handbook for ready reference. In a general way, we think data and statistics relating to the following phases of the copper industry will be helpful in the campaign for a copper tariff and in acquainting the American people with the dire need of such tariff protection; pioneer efforts for the establishment of an American copper industry; history of the industry in its later commercial activities; tariff history of copper; foreign production of copper and competition with the American product; a summary of the case for a copper tariff.

Because of your special qualifications for this work, we request that you prepare such data, statistics, and history of copper in the form suggested, suitable for supplying Congress and the general public with the facts relating to the copper industry and the requirements of a copper tariff.

Yours very truly,

CLEVE W. VAN DYKE, *Chairman.*
J. W. STRODE, *Secretary.*

SAM H. MORRIS,
L. C. SHATTUCK,
J. G. FLYNN.

WARREN, ARIZ., *October, 1931.*

Hon. CLEVE W. VAN DYKE, *Chairman,*
Hon. J. W. STRODE, *Secretary,*
Hon. L. C. SHATTUCK,
Hon. SAM MORRIS,
Hon. JAMES G. FLYNN,
Arizona Copper Tariff Commission.

Gentlemen: It is my great pleasure and privilege to have the honor to submit herewith to you the results of work recently conducted by the undersigned at Washington, D. C., in accordance with your orders and direction.

Research into Government records and documents show that from the beginning of copper production in the United States, this industry has always been in need of tariff protection for its well-being. I hope that I have made this truth evident in this report.

Respectfully yours,

HOVAL A. SMITH,
Consulting Mining Engineer.

INTRODUCTION

The writer is desirous of submitting to those interested certain data which has been assembled emphasizing the urgent necessity of securing adequate tariff protection for the domestic copper mining industry.

Copper from ore to the highly manufactured refined electrolytic copper ingot is on the free list, yet its manufactured product is the recipient of adequate protection.

Copper that once enjoyed protection for 44 years, within the period 1846 to 1894, is again in need of protection.

Very little information has been published relating to domestic copper tariff details; therefore it is deemed advisable to submit herein varying data pertaining thereto, compiled from our past economic history.

It is believed that careful and detailed scrutiny of all the factors submitted will denote the glaring economic injustice of continually forcing the domestic copper miner's product to accept the world's free trade price within our highly protected domestic market.

In order to initially understand somewhat the relationship of the various subdivisions of domestic copper production and manufacture in connection with this tariff discussion, the following generalized tables are submitted:

TABLE 1.—*Domestic copper production and value, 1845–1930*

Year	Quantity	Value	Year	Quantity	Value
	Pounds			*Pounds*	
1845	224,000	$45,000	1889	226,775,962	$30,615,000
1846	336,000	57,000	1890	259,763,092	40,523,000
1847	672,000	124,000	1891	284,121,764	36,368,000
1848	1,120,000	218,000	1892	344,998,679	40,020,000
1849	1,568,000	349,000	1893	329,354,398	35,570,000
1850	1,456,000	320,000	1894	354,188,374	33,648,000
1851	2,016,000	334,000	1895	380,613,404	40,726,000
1852	2,464,000	342,000	1896	460,061,430	49,687,000
1853	4,480,000	985,000	1897	494,078,274	59,289,000
1854	5,040,000	1,108,000	1898	526,512,987	65,288,000
1855	6,720,000	1,814,000	1899	568,666,921	97,242,000
1856	8,960,000	2,419,000	1900	606,117,166	100,615,000
1857	10,752,000	2,688,000	1901	602,072,519	100,546,000
1858	12,320,000	2,833,000	1902	659,508,644	80,460,000
1859	14,112,000	3,104,000	1903	698,044,517	95,632,000
1860	16,128,000	3,709,000	1904	812,537,267	104,005,000
1861	16,800,000	3,696,000	1905	888,784,267	138,650,000
1862	21,160,000	4,655,000	1906	917,805,682	177,136,000
1863	19,040,000	6,473,000	1907	868,996,491	173,799,000
1864	17,920,000	8,422,000	1908	942,570,721	124,419,000
1865	19,040,000	7,473,000	1909	1,092,951,624	142,084,000
1866	19,936,000	6,828,000	1910	1,080,159,509	137,180,000
1867	22,400,000	5,682,000	1911	1,097,232,749	137,154,000
1868	25,984,000	5,976,000	1912	1,243,268,720	205,139,000
1869	28,000,000	6,790,000	1913	1,224,484,098	189,795,000
1870	28,224,000	5,977,000	1914	1,150,137,192	152,968,000
1871	29,120,000	7,023,000	1915	1,388,009,527	242,902,000
1872	28,000,000	9,956,000	1916	1,927,850,548	474,288,000
1873	34,720,000	9,721,000	1917	1,886,120,721	514,911,000
1874	39,200,000	8,624,000	1918	1,908,533,595	471,408,000
1875	40,320,000	9,152,000	1919	1,186,419,329	239,274,000
1876	42,560,000	8,937,000	1920	1,209,061,040	222,467,000
1877	47,040,000	8,937,000	1921	505,586,098	65,221,000
1878	48,160,000	7,994,000	1922	950,285,947	128,289,000
1879	51,520,000	9,582,000	1923	1,434,999,962	210,945,000
1880	60,480,000	12,943,000	1924	1,634,249,192	214,087,000
1881	71,680,000	13,046,000	1925	1,674,869,886	237,832,000
1882	90,646,232	17,313,000	1926	1,739,622,094	243,547,000
1883	115,526,053	19,062,000	1927	1,684,040,983	220,609,000
1884	144,946,653	18,843,000	1928	1,825,900,393	262,930,000
1885	165,875,483	17,915,000	1929	2,002,863,135	352,504,000
1886	157,763,043	17,512,000	1930	1,394,389,327	181,271,000
1887	181,477,331	25,044,000			
1888	226,361,466	38,029,000	Total	44,448,876,489	7,213,297,000

The writer wishes to mention that all data pertaining to copper statistics herein submitted, unless otherwise stated, has been obtained from publications issued by the United States Geological Survey, Bureau of Mines, Department of the Interior, Treasury Department, or Department of Commerce.

TABLE 1–A.—*List of 217 domestic copper producing districts within 19 States*

ARIZONA

1. Agua Fria.
2. Ajo.
3. Amole.
4. Banner.
5. Baboquivari.
6. Big Bug.
7. Bunker Hill.
8. California.
9. Cave Creek.
10. Cienega.
11. Cochise.
12. Copper Basin.
13. Dos Cabezas.
14. Ellsworth (Vicksburg).
15. Empire.
16. Globe.
17. Grand Canyon.
18. Francis.
19. Harcuvar.
20. Harshaw.
21. Hassayampa.
22. Helvetia.
23. Hereford.
24. Miami.
25. Mineral Creek (Ray).
26. Metcalf (Greenlee).
27. Morenci (Copper Mountain).
28. Old Hat.
29. Oro Blanco.
30. Palmetto.
31. Patagonia.
32. Pima.
33. Pinto.
34. Pioneer.
35. Planet.
36. Plomosa (Quartzsite).
37. Riverside.
38. Saddle Mountain (Christmas).
39. Silver Bell.
40. Teviston.
41. Tiger.
42. Tombstone.
43. Turquoise (Courtland).
44. Tyndell.
45. Union Basin.
46. Verde (Jerome).
47. Hualpai.
48. Warren (Bisbee).
49. Wrightson.

CALIFORNIA

1. Afterthought.
2. Bully Hill.
3. Campo Seco (Valley Springs).
4. Stedman.
5. Copperopolis.
6. Furnace Creek.
7. Iron Mountain.
8. Ben Hur.
9. Little Backbone.
10. Spenceville.
11. Taylorville.

COLORADO

1. Alice.
2. Animas.
3. Argentine.
4. Battle Mountain.
5. Blue Mountain.
6. Buckskin.
7. California (Leadville).
8. Carrizozo Creek.
9. Cotopaxi.
10. Douglas Mountain.
11. Eureka.
12. Galena.
13. Gregory.
14. Griffith.
15. Horseshoe.
16. Idaho Springs.
17. Iron Springs (Ophir).
18. Monarch-Garfield.
19. Montana.
20. Mosquito.
21. Nevada.
22. Paradox Valley.
23. Parigo and Union.
24. Pioneer (Rico).
25. Red Mountain.
26. Roaring Fork (Aspen).
27. Rock Creek (Marble).
28. Russell.
29. Sneffels.
30. Sugarloaf.
31. Sunnyside (Creede).
32. Tenmile (Kokomo).
33. Tomichi (White Pine).
34. Turret.
35. Uncompahgre.
36. Upper San Miguel (Telluride).
37. Ward.

IDAHO

1. Alder Creek.
2. Antelope.
3. Bay Horse.
4. Cottonwood.
5. Dome.
6. Evolution.
7. Hailey (Mineral Hill).
8. Hamilton.
9. Hunter (Mullan, Coeur d'Alene).
10. Lava Creek.
11. Leland.
12. Loon Creek (Castro).
13. McDevitt.
14. Pend Oreille.
15. Placer Center.
16. St. Joe.
17. Seven Devils.
18. Skull Canyon.
19. Texas.
20. Warm Springs.
21. West View.
22. Yreka.

MICHIGAN

1. Lake Superior.

MISSOURI

1. Fredericktown.

MONTANA

1. Amazon.
2. Backer (Diamond).
3. Boulder.
4. Bryant (Hecla).
5. Cataract (Basin).
6. Cedar Plain.
7. Colorado.
8. Divide Creek (Tidal Wave).
9. Elkhorn.
10. Flint Creek (Philipsburg).
11. Georgetown (Cable).
12. Mineral Hill (Pony).
13. Musselshell (Copperopolis).
14. Ophir.
15. South Boulder (Princeton).
16. Spring Gulch.
17. Summit Valley (Butte).
18. Utopia.

NEVADA

1. Adelaide.
2. Bristol.
3. Bullion (Lander).
4. Contact.
5. Dolly Varden.
6. Eureka (Pinto, Prospect, Ruby Hill).
7. Galena (Copper Basin).
8. Goldfield.
9. Hunter.
10. Newark.
11. Pioche.
12. Robinson (Ely).
13. Santa Fe (Luning).
14. Searchlight.
15. Spruce Mountain.
16. Yellow Pine (Good Springs).
17. Yerington.

NEW HAMPSHIRE

1. Milan.

NEW MEXICO

1. Apache.
2. Bromide.
3. Burro Mountain.
4. Central.
5. Cooney (Mogollon).
6. Estey (Oscuro).
7. Eureka (Hachita).
8. Fierro.
9. Highrolls.
10. Hillsboro (Las Animas).
11. Jarilla (Silver Hill).
12. Lordsburg (Pyramid).
13. Magdalena (Kelly).
14. Organ.
15. Pinos Altos.
16. Santa Rita.
17. Scholle-Mountaineer.
18. Tularosa.
19. San Pedro.
20. Twinning.

NORTH CAROLINA

1. Cullowhee.
2. Gold Hill.
3. Virgilina.

OREGON

1. Quartzburg.
2. Waldo.

PENNSYLVANIA

1. Cornwall.

TENNESSEE

1. Ducktown.

UTAH

1. American Fork.
2. Beaver Lake.
3. Big Cottonwood.
4. Blue Ledge.
5. Boxelder.
6. Detroit.
7. Little Cottonwood.
8. Lucin.
9. Ophir.
10. Rocky.
11. Rush Valley.
12. San Francisco.
13. Snake Creek.
14. Star.
15. Tintic.
16. Uinta (Park City).
17. West Mountain (Bingham).

VERMONT

1. Ely.

VIRGINIA

1. Dumfries.
2. Virgilina.

WASHINGTON

1. Belcher.
2. Chewelah.
3. Danville.
4. Granite Falls.
5. Index.
6. Meyers Falls.
7. Myers Creek (Chesaw).
8. Palmer Mountain.

WYOMING

1. Copper Mountain.
2. Douglas Creek (Holmes).
3. Encampment.
4. Platte Canyon (Hartville, Sunrise).
5. Rawhide Buttes.

TABLE 2.—*Copper import duties 1846–1930*

Tariff act	Ore	Regulus	Old	Ingots	Sheets	Manufactures
	Per cent	*Cents*	*Per cent*	*Per cent*	*Per cent*	*Per cent*
1846	Free.	----------	5	5	20	30
1857	Free.	----------	Free.	Free.	15	24
1861	5	----------	[1] 1.5	[1] 2	25	30
1864	5	----------	[1] 1.5	[1] 2.5	35	35
1869	[1] 3	[1] 4	[1] 4	[1] 5	45	45
1872	[1] 2.7	[1] 3.6	[1] 3.6	[1] 4.5	40.5	40.5
1874–1882	[1] 3	[1] 4	[1] 4	[1] 5	45	45
1883	[1] 2.5	[1] 3.5	[1] 3.5	[1] 4	35	35
1890	[1] 0.5	[1] 1	[1] 1	[1] 1.25	35	45
1894	Free.	Free.	Free.	Free.	20	35
1897	Free.	Free.	Free.	Free.	[1] 2.5	45
1909	Free.	Free.	Free.	Free.	[1] 2.5	45
1913	Free.	Free.	Free.	Free.	5	20
1922	Free.	Free.	Free.	Free.	[1] 2.5	40
1930	Free.	Free.	Free.	Free.	[1] 2.5	45

[1] Cents.

Table 1 was secured from Bureau of Mines reports and shows that the first record made of copper produced within the United States began with the year 1845.

Table 1-A was secured from United States Geological Survey report "Copper in 1915," and shows the 217 domestic copper producing districts within 19 States that contributed the copper production set out in Table 1.

Table 2 was prepared from data secured through governmental publications and shows that the first copper tariff laid as against the foreign copper ingot began with the year 1846.

For ease of understanding, the presentation of data in connection with this copper tariff discussion will be submitted in sequence tariff periods beginning with 1846 and ending with the tariff act of 1930.

Chapter 1

1846 to 1857

It is a rather striking coincidence that the year when a duty was first laid against foreign copper imported in pigs, bars, plates, or ingots, was likewise nearly coincident with the recorded beginning of our domestic copper mining industry.

The beginning of recorded copper production within the United States dates from 1845. Copper produced during 1845 amounted to only 224,000 pounds, having a value of $45,000, as shown in Table 1.

The first tariff to lay a duty against the foreign ingot was passed July 30, 1846. This act provided for a 5 per cent ad valorem duty as against the foreign copper ingot, and 30 per cent against the manufactured article. No duty was laid against copper in ores, regulus, black, coarse, or old copper.

The first tariff laid to protect the domestic manufactured copper article was passed August 10, 1790. The initial rate was 7.5 per cent ad valorem, and varied from this low to 35 per cent in 1816, 25 per cent in 1819 to 1832, 30 per cent from 1842 to 1846.

These early duties appear low, yet they were deemed during their control period sufficient from a revenue and in most instances amply protective as well.

During the tariff debates of 1842 we note that the New England shipbuilding interests and their congressional representatives as well, were insistent on having copper sheathing for their wooden vessels placed on the free list, yet clamored lustily for adequate protection on the articles they were interested in.

We also note in tariff proceedings and documents 1839–1857, page 2160, that as of July 16, 1846, that Joseph W. Revere and 36 other copper manufacturers and dealers presented a memorial to Congress asking that raw copper remain on the free list or that sheathing copper may be subject to a duty of 10 per cent.

Congress refused to heed the petition of the copper manufacturers. Congress placed copper sheathing, a manufactured copper article, on the free list in the act of 1846, yet placed a duty on the manufacturers' raw material, namely, the copper ingot.

This unusual reversal of congressional protective procedure was the initial step in laying a chain of protective copper duties during the next 48 years, said duties having the effect of protecting the domestic copper-mining industry during its early and formative period until the time it could successfully meet foreign copper competition.

It is interesting to note in the Revere memorial of July 16, 1846, the following:

The consumption of copper in the United States is about 13,000,000 pounds annually. It is obtained:

	Pounds
From Chile, in pigs	6, 500, 000
From England, in sheets	3, 500, 000
From England, in cakes	1, 000, 000
From mines in the United States	500, 000
Old copper from various sources	1, 500, 000
In all, about	13, 000, 000

It will be seen that nearly all the pig or raw copper imported is obtained from Chile (erroneously called Peruvian copper in this country), and that England supplies us in refined copper and copper sheathing with more than one-fourth of all the copper consumed in the United States. * * *

A large portion of the copper we import from England is made from ores or pig copper obtained in Chile; * * *

If the object of the proposed duty on raw copper be to afford protection to our mines, the same reason would lead to a duty on all the manufacturers of that article.

The memorial states that nearly all the copper imported from England into the United States was made from ores of pig copper obtained in Chile. In other words, about 11,000,000 pounds out of the 13,000,000 pounds consumed within the United States came originally from Chile.

The copper mines of the United States only furnished 500,000 pounds of the copper consumed.

Based on the foregoing, we ascertain that our domestic copper mines as of 1846 only furnished about 5 per cent of our domestic copper requirements, and that 95 per cent of our domestic copper requirements was imported, and nearly all of it came originally from Chile.

Under the foregoing statement of facts, it appears that Congress as of 1846 rendered a distinctive service to our country when they accorded protection to our domestic copper ingot, thus initiating a policy that was destined in a few years to furnish the total requirements of our domestic market during peace as well as war.

Nevertheless, we find shortly after the act of 1846 accorded protection to the domestic copper ingot, the following criticism thereof by Senator Simon Cameron of Pennsylvania, on January 7, 1847:

But these are not the only articles in the bill of 1846 upon which the discrimination acts injuriously upon the revenue, while it destroys the domestic manufacturer. Sheathing copper is admitted free, while the duty collected is laid on the bars and pigs. The import of copper amounts to upward of $2,000,000. The pigs make only $300,000 of this amount. The duty is thus laid on the smallest amount imported, and the larger is permitted to come in free. Is there wisdom or justice in this? Our mountains are full of copper ore, while, for the want of care upon the part of the Government in its revenue laws, it is useless. We have but two or three smelting furnaces in the Union, while we have rolling establishments enough in the country to roll into sheets all the copper it needs. To get revenue, the duty should be on the sheets, and if any is to be free, it should be the raw material.

Having in mind Senator Simon Cameron's well-known protective viewpoint, one would have expected him to advocate rigid protection for the highly manufactured copper ingot and a compensatory duty for the manufactured copper article, namely, copper sheathing. However, he speaks slightingly of the copper smelting industry and highly

of the copper rolling or fabricating industry. We note, however, in these tariff debates that Senator Cameron was ardently an advocate of rigid and high duties when it came to protecting the "raw materials" coal and iron, which constituted an all-important detail of Pennsylvania's industrial life.

The essence viewpoint of the petitioners for rigid protection for the coal and iron miner as of July 23, 1846, is eloquently expressed as follows:

> Surely no one imagines that the mines of the country if suffered to languish and be closed in time of peace can be made all at once to meet the demands of a time of war. They have no such facility of revival. Not one year or two, with all the aids that could be furnished by capital and labor applied without stint would suffice to restore them to their present capacity if once suffered to go down, much less to enable them to meet a demand greatly increased beyond the present. They require something more than occasional and temporary encouragement springing out of an emergency and ending when that is past. They require a considerate and constant care—the duty of every Government toward those employments of useful industry which can not be taken up and abandoned at pleasure but demand the investment of a fixed and immovable capital.

The foregoing statement is equally true to-day as it was when made 85 years ago. It not alone applies to the past and present day domestic coal and iron ore industry, but it is likewise applicable to our domestic copper mining industry as of 1846 and 1930.

The development of the domestic copper mining industry from 1845 to 1857 was rather slow. The rate of domestic increase of copper produced was directly dependent upon the development of the Lake Superior native copper deposits. This district was far removed from the domestic consuming market and isolated from it for six months of the year.

Table No. 1 shows that 35,056,000 pounds of copper having an average value of 23.8 cents per pound, was mined from 1845 to 1856, inclusive, throughout the whole United States. Michigan furnished about 85 per cent of the foregoing amount.

> According to Horace J. Stevens, Copper Handbook, 1902, "the first successful American copper smelter was built at Baltimore in 1845. About 1847 a small smelter was built at New Haven and from this primitive plant dates the great copper and brass manufacturing industry of the Naugatuck Valley of Connecticut. At about the same period a smelter was erected at Bergen Point, New Jersey. A smelter was erected at Pittsburgh in 1848, and about 1850, smelting plants were built at Cleveland, Detroit, and Hancock. Smelters were built at Ducktown, Tenn., in 1854, and since that time the progress of the copper smelting industry in the United States has been steady."

As a summary it may be stated that during the period 1846 to 1857, when the initiation of a domestic copper ingot tariff coincided with the initiation of the domestic copper mining industry, there was laid a broad and enduring foundation within the domestic copper mining and smelting industries that has continued to this time.

CHAPTER II

1857 TO 1861

The tariff act of March 3, 1857, removed the copper ingot duty which was laid in 1846. Referring to Table 2, it will be seen that old copper was likewise placed on the free list and the manufacturers'

duty lowered to 24 per cent. Copper in ores and regulus continued to remain on the free list.

The domestic copper production for this period continued to increase and was directly due to the increase within the Lake Superior copper area that furnished about 80 per cent of the period production.

An examination of the Commerce Statistics, United States Treasury Department, for 1857, shows that the net value of foreign imports of copper products amounted to about $3,200,000, this being about $500,000 more than the total value of domestic copper produced for 1857. The total value of domestic copper exported in 1857 as manufactured copper and brass amounted to about $600,000. We find, therefore, that as of 1857 there was imported into the United States a net value of copper products about equal to the value of the domestic copper mined during that year. In other words, foreign copper areas furnished about 50 per cent of our domestic requirements.

We further note that about 90 per cent of the copper imported into the United States during 1857 came from Chile and that nearly all was entered at Boston and Baltimore.

It was also ascertained that of the copper ore imported from Chile, only 4 per cent was reexported, showing that about 96 per cent thereof was smelted at Boston and Baltimore.

It was further noted that 85 per cent of the pig copper imported in 1857 came from Chile. The reexport of pig copper, amounting to about 25 per cent of the total imports for 1857, was sent to China.

There was no domestic copper ore or domestic copper ingots produced from domestic ore, exported during the period 1857 to 1860. The domestic copper mining industry was still in the development stage, and until more adequate transportation facilities were made available, foreign copper would continue to be imported.

Chapter III

1861 TO 1869

The tariff act of March 2, 1861, was the first tariff measure passed by Congress to lay a duty against foreign copper imported in ores. This act also provided a duty of 2 cents per pound as against copper imported in the form of pigs, bars, or ingots; on copper when old and fit only to be remanufactured, 1½ cents per pound; on sheathing copper, in sheets 48 inches long, and 14 inches wide, and weighing from 14 to 34 ounces the square foot, 2 cents per pound; on copper rods, bolts, nails, spikes, copper bottoms, copper in sheets or plates, called braziers' copper, and other sheets of copper not otherwise provided for, 25 per cent ad valorem; manufactured articles, vessels, and wares not otherwise provided for, of copper, 30 per cent ad valorem.

The act of March 2, 1861, aforesaid, was modified by the tariff act of June 30, 1864, as to duty on bars, plates, and ingots, which was raised to 2.5 cents, and that on sheets and manufactures to 30 and 35 per cent, respectively.

The tariff act of March 2, 1861, was epochal, so far as the domestic copper mining industry was concerned.

Laying a duty against foreign copper imported in ores—which theretofore had always been admitted free of duty—soon developed the fact, through rigid custom inspection, that so-called foreign ores

also embraced regulus, black, coarse, cement copper, and other highly concentrated copper products intermediate between the ore and ingot stage.

It was likewise ascertained that the ad valorem duty on copper in foreign ores developed a tendency to undervalue same, which soon suggested the thought of laying specific duties in lieu of the ad valorem rates.

The Civil War period (1861–1865) disturbed the domestic and foreign commerce details to the extent that very little information can be gained by analyzing the copper factors involved. Table 1 shows a very marked decrease in domestic copper production during the war period, and the normal rate of increased production did not develop until about 1868.

Chapter IV

1869 TO 1883

The passage of the copper tariff act of February 24, 1869, regulating the duties on imported copper and foreign copper ores offered the first real constructive protection that had ever been accorded the domestic copper mining industry.

This act provided the following specified duties and rates of duty: On all copper imported in the form of ores, 3 cents on each pound of fine copper contained therein; on all regulus of copper and on all black or coarse copper, 4 cents on each pound of fine copper contained therein; on old copper fit only for remanufacture, 4 cents per pound; on all copper in plates, bars, ingots, pigs, and in other forms not manufactured or herein enumerated, including sulphate of copper or blue vitriol, 5 cents per pound; on copper in rolled plates called braziers' copper, sheets, rods, pipes, and copper bottoms, eyelets, and all manufactures of copper, or of which copper shall be a component of chief value, not otherwise herein provided for, 45 per cent ad valorem.

An analysis of the rates stated in the foregoing act provided protection to the miner of the ore; the smelterman that converted the ore to regulus or black copper; the refiner that converted regulus or black copper to ingot form; the millman that rolled the ingot into plates, sheets, and rods, and finally adequate protection to the manufacturer that converted the rolled products into the innumerable articles of copper deemed essential within the industrial sphere.

This tariff act embodied a cross section of economic fairness, industrial decency and cooperative compensations not excelled by any prior or subsequent tariff schedule enacted during our legislative history.

The cumulative protective rate factors prevented the smelterman from destroying the miner of copper ore through importation of low-cost foreign-mined ores. Likewise these rates protected the copper miner and the smelterman from any possible rapacity on the part of the refiner who might seek to import the lower cost regulus or coarse copper from foreign areas. In sequence, the copper miner, the smelterman, and the refiner were protected by these rates from the machinations of any millman or manufacturer who might attempt to use the low cost refined foreign ingot.

Surely a tariff schedule possessing the foregoing economic attributes is well worthy of careful study as to origin, necessity for enactment, likewise its ultimate operative effects. All the foregoing

factors should particularly receive the most minute scrutiny on the part of the present day domestic copper miner, who is now vitally in need of the same degree of adequate protection accorded his economic forbear of 62 years ago.

The congressional debates connected with the initiation and passage of the special copper tariff act of February 24, 1869, should be of most detailed interest to the copper miner, who is now striving desperately to secure the passage of an equivalent legislative measure.

Consequently, excerpts from the Congressional Globe and an analysis of the debates will be submitted in connection with the passage of the copper tariff act through Congress and its final enactment over President Johnson's veto.

Congressional Debates Referring to 1869 Copper Tariff Act

HOUSE OF REPRESENTATIVES

An attempt had been made by the domestic copper mining industry to secure increased copper duties ever since the passage of the special wool tariff act of March 2, 1867.

The initiation of the first series of debates which finally led to the passage of the copper tariff act of February 24, 1869, began on December 7, 1868. The act was first introduced on July 25, 1868, near the end of the second session of the Fortieth Congress.

Mr. Robert C. Schenck, chairman of the Ways and Means Committee of the House, in introducing the bill on July 25, 1868, stated as follows:

> I wish simply to explain that the Committee of Ways and Means were very reluctant after the failure to get through anything like a more general provision of tariff, embracing other matters, to bring forward a specific bill; but looking over the whole ground again and again they came to the conclusion that if there was any one thing which stands out among all others with a claim to have some legislation which shall relieve those engaged in the interest from the great difficulties and suffering under which they now labor, it is this copper interest. The copper interest everyone knows, is very large, especially in the Lake Superior region. It was once so promising and flourishing that they almost scorned to ask protection for it in any way as the other productions of the country were protected. But since then there has been protection extended to the copper interest, mostly from 5 to 7 per cent ad valorem, and it is only that now; while lead, iron, and other corresponding interests have 40, 50, and 60 per cent protection, copper has up to this hour only had from 5 to 7 per cent, the highest any protective duty attached to any form of copper being 7 per cent. The bill now proposed will give protection to the amount of 30 per cent.

The writer submits that the present-day condition of the domestic copper-mining industry is much worse than it was in 1868. At that time there was a duty on copper imported in ores, and they were petitioning for an ad valorem increase from 5 per cent to 30 per cent. At the present time copper in ores is admitted free of duty, likewise copper in mattes and ingot form. If the copper-mining industry needed protection as against foreign imports of copper in 1868, it is in far greater need of protection now than at that time.

The copper tariff bill passed the House on December 8, 1868, with hardly any debate, with yeas 106, nays 51, not voting 64.

During consideration of House Bill No. 1349, on December 15, 1868, to increase the revenue from duties on imports, Congressman James Brooks, of New York, spoke as follows:

Now let us analyze the bill before us. The first item proposed is a fresh copper tax * * * on imported copper in ores, a prohibitory duty, because the Lake Superior mines, with this enormous profit per ton guaranteed them by law, could always afford to undersell the smelters in this country, who are obliged by the nature of this domestic ore, to admix foreign ore with domestic ores in the act of smelting. Under the existing tariff, the duty on imported copper in ores is now computed at about three-quarters of 1 cent per pound. The bill before us proposes to increase this tax to 3 cents per pound; that is to increase it by 2¼ cents per pound.

The owners and the workers of the Lake Superior mines tell us this bounty is indispensable for their prosperity, and they draw deplorable pictures of the copper villages in that region in order to influence the sympathies of this House. Sir, I do not believe that in any agricultural State of this Union the people can long suffer from starvation where farms may be had from the nation by the mere squatting upon them; but if this be so, I know of no right which copper men have to claim bounties from that nation to work copper mines more than farms.

If copper can not be successfully worked upon Lake Superior potatoes can be. The lakes abound in fish and the forests in wood and lumber, which command the highest prices.

The Lake Superior mines, it is estimated, averaged from 1845 to the close of the year 1867 but about 9,000,000 pounds per year, while the consumption was 24,000,000 pounds per year, and it is these 15,000,000 per year which it is proposed by a prohibitory duty to drive from market in order that it may be furnished at a higher price than it can now be bought for.

Sir, if I am correctly informed as to copper mining and the copper trade, one cause of the depression of Lake Superior mining is the less demand for copper in the markets of the world, and the greater difficulty of mining copper than in Chile and elsewhere. The copper product of Great Britain has largely declined, namely, from 15,968 tons in 1860 to 10,800 tons in 1867.

The East Indian no longer absorbs copper as once he did, but uses gold and silver instead. Iron steamships, which need no copper sheathing, have now superseded the wooden copper-sheathed ships.

Copper mines in some countries are surface mines easily worked, or on the coast whence freights are cheap therefrom, while the Lake Superior mines are far in the interior and not cheaply worked, not only because of their locality, but from the necessity of bringing labor and provisions to remote distances.

Sir, I know of no duty of the great American people, the consumers of copper, to pay tribute to a few unprofitable copper mines on Lake Superior any more than to pay tribute to hothouses to raise sugar or grapes there.

I know of no right one has to tax the brass founder, the brass workers, or the boilermaker, or any employment into which copper enters, for the benefit of a few copper workers in northern Michigan, or for the benefit of a few capitalists in my own New York district, or Boston, that own the greater part of the stock in these mines, more especially when the smelters of copper are compelled by the laws of nature to mix a certain quantity of foreign carbonate ores into the local sulphate ores of the United States. * * *

Sir, there is a greater interest in this country, a great national interest, that reaches far higher than the copper mining of Lake Superior, and that is the shipping interest of the United States.

In the foregoing excerpts Mr. Brooks, of New York, naturally champions the free-trade smelter and shipping interests of New York as against the equities of the protected Lake Superior copper miner, who at that time mined 80 per cent of our domestic copper.

We note that Mr. Brooks suggests that the starving copper miners raise potatoes, secure fish from the lakes, and engage in the lumber business. It was well known even in 1868 that the Lake Superior copper district was devoid of agricultural possibilities.

Mr. Brooks states that on account of the Lake Superior copper miner only furnishing an average of 35 per cent of the domestic copper requirements from 1845 to 1867, he should not be accorded protection as against the 65 per cent that came in at lower cost from the foreign ore areas. According to this theory no domestic industry should be

accorded protection until it was able to forthwith care for our total domestic requirements.

Mr. Brooks likewise states that Lake Superior copper can not compete with the Chile copper product, evidently delivered at New York. This was undoubtedly true in 1868, as it certainly is in 1931.

Rare solicitude was expressed by Mr. Brooks in favor of the eastern fabricator of copper products—they should not be taxed merely to aid a few copper miners in northern Michigan. These fabricators should evidently be accorded their continued protection on the manufactured article and be permitted to bring in the cheap convict copper of Cuba and elsewhere duty free for their domestic plants.

He gives vent to the sophistry that the domestic copper smelters (surely he meant only those in New York, Boston, and Baltimore) were compelled by laws of nature to use foreign copper carbonate ores to mix with the domestic sulphuret ores, the fact being that these eastern smelters were not interested in using domestic ores, their intent and practice, even as of 1868, being to secure the low-cost high-grade oxidized ores of Chile, Cuba, and Venezuela, and the low-cost high-grade sulphide ores from Canada, Newfoundland, and Labrador.

Mr. Brooks's argument has been answered in detail for the reason it is typical of several others made during the discussion of the copper tariff act. He showed a selfish, solicitous regard for the eastern smelter, fabricating, and shipping interests, and no consideration for those Americans who were then striving desperately to develop an ample supply of domestic copper.

We note in December 15, 1868, issue of the Congressional Globe that Congressman Frederic A. Pike, of Calais, Me., objected to increased copper duties for the reason that about one-half of the domestic copper consumed was by the shipbuilding interests, which he represented in part, and he stated that their copper should not be raised in price for the benefit of a producing interest, namely, the Michigan copper miners.

Congressman Horace Maynard, of Knoxville, Tenn., stated on December 15, 1868, the following:

> I desire to say a word in reply to the gentleman from Maine (Mr. Pike).
>
> It will be seen by comparing the articles of copper with various other articles that the duty on copper is very much less than the general average on imported articles. The reason of that has been that the copper interest of this country, relying upon the supposed facility with which copper could be procured, especially from what I may call the native ores of Lake Superior, have not claimed that amount of protection which some other interests require. The duty at present is 35 per cent, and this bill proposes to raise it 10 per cent ad valorem.
>
> The copper interest in this country ought to supply all the metal that would be wanted for shipbuilding or for any other purpose.
>
> Not only the copper mines of Lake Superior, but those of Virginia, Tennessee, and California, are wrought and have demonstrated capacity of being wrought with great success.
>
> The competition that they meet with is from the ore that is brought in in ballast from Chile and from Cuba, and mainly from these two points.
>
> I will not go over with the gentleman from Maine (Mr. Pike) the theory of protection, because, if he agrees with me, it is unnecessary, and if he does not agree with me, it is equally unnecessary.
>
> I do not admit that the raising of the tariff so far as is necessary to keep alive and in active operation our own establishments here at home will raise the price of copper to the shipbuilders of Maine or to the mechanics in any other part of the country, or in any kind of employment.

This provision of the bill is predicated upon the necessity deemed to exist and ascertained, after careful examination, of this amount of protection against foreign ore to keep alive and in active operation the copper producing interests of our own country.

The foregoing argument is as applicable to the crisis confronting the copper miner of 1931, so far as foreign importations of copper is concerned, as it was when delivered in 1868.

Congressman Charles E. Phelps on December 15, 1868, advocated on behalf of the Baltimore and other Atlantic tidewater smelters that whatever duties they paid on imported copper ores be remitted, provided they smelted two tons of domestic ore to one of imported ore.

Congressman William D. Kelley, of Philadelphia, replying to Mr. Phelps states that the reason for the passage of a special copper tariff act was to stop the importation of foreign copper ores. Furthermore, other copper districts than Lake Superior, for instance those within the States of Virginia, Tennessee, and Alabama, needed protection to develop their copper resources, and when developed these areas would provide an ample variety of domestic smelting ores.

Congressman John F. Driggs of East Saginaw, Mich., states as of December 15, 1868, the following:

That of about 100 mines in the Lake Superior region there are only about 11 now being worked; and the reason is that they have to pay on the iron and steel that they use in their drills and other machinery about 50 per cent, while the duty on copper is only 7 per cent. I should like to know how gentlemen can pretend that there is anything fair in such a discrimination against an important American interest. * * *

My friend from Maryland (Mr. Phelps) feels an interest in the smelting works at Baltimore, and it is proper enough that he should defend the interests of his constituency; but I would say to him that if that particular branch of industry can not live without crushing important American interests, the persons concerned in it had better find some other business. * * *

Of the 12,000 tons consumed in 1865 but 3,000 were imported, the Lake Superior region producing nearly 9,000 tons. * * *

I desire to make a single additional remark, that the copper of South America is produced very cheaply by peon labor and should not be permitted to come into ruinous competition with that produced by free labor of this country.

The argument of Mr. Driggs in 1868 surely applies to conditions within out domestic copper mining industry as of 1931. Nearly all our domestic mines are closed, we have to pay high protective tariff prices for all our mine supplies; yet, forced to accept within our home market the world's free trade price. The domestic miner of 1931 is being ruined by the same cheap Chilean labor that threatened ruin to the copper miner of 1868.

Congressman William B. Allison, of Dubuque, Iowa, stated on December 15, 1868, the following:

The Committee of Ways and Means found * * * that there was no manufactured copper imported into this country; that those gentlemen in Baltimore and in other sections of the Union who manufacture copper have an entire monopoly of this business.

The foregoing denotes that the domestic copper manufacturer enjoyed a monoply of the home market, yet he had the effrontery to continually oppose a livable protection for the domestic copper miner.

Congressman Maynard, of Tennessee, on December 15, 1868, made the following statement:

The argument is made that it is necessary to have some part of foreign ore as a flux for the native ore. That is sufficiently answered by the smelting operations

in my own State and in my own district. There the ore is smelted, and smelted successfully, using native ore alone. It is successfully carried on there, and can be everywhere else, without the importation of foreign ore. The introduction of copper ore from Cuba and Chile only serves to come into competition with the production of our own mines.

Congressman Kelley, of Philadelphia, on December 15, 1868, made the following statement:

Do not let that interest (American shipping interest), which is protected by the most absolute and grandest monoply the United States Government ever conceded to any interest, come here and cry out against the copper interest of Lake Superior, Virginia, North Carolina, Alabama, and Tennessee, and ask to crush them all.

SENATE

We note that when Senator Zachariah Chandler, of Detroit, Mich., on December 18, 1868, moved that the Senate proceed to the consideration of House bill H. R. No. 1460, regulating the duties on imported copper and copper ores, he made the following statement:

This bill was reported and was before the House of Representatives and thoroughly discussed at the last session of Congress. They were calling the yeas and nays upon it when the House adjourned. When the hammer fell they had proceeded half way through the roll call. It is the same bill verbatim that was thoroughly discussed here two winters ago and passed by this body. It has received, perhaps, more consideration than any other bill before either House of Congress. It passed the House of Representatives by a vote of more than two to one. It is a matter of vital importance to a very large class of people, not only in the State of Michigan, but in other States. The copper interests of the Lake Superior region are almost ruined. They have been running at a loss for the last two years hoping that this identical bill would pass.

Senator John Sherman, of Mansfield, Ohio, chairman of the Committee on Finance, stated on December 18, 1868, the following:

I think it is perhaps due to the Senate that I should state the circumstances connected with this bill. I feel bound to do it, as I reported the bill. The bill came to the Committee on Finance, and we are in favor of it. I believe it fixes the same rates that were imposed by the tariff bill of two years ago. The chief objection of the committee, however, to the bill was, not as to the rates—they are the same that have been passed two or three times by the Senate—but as to detaching this interest from other interests and passing it as a separate bill; and the committee at one time concluded that it was not advisable at present to report the bill, but afterward changed their decision.

Senator William Pinkney Whyte, of Baltimore, Md., who was opposed to the copper tariff measure, did on December 19, 1868, state the following:

I trust that the bill to which the attention of the Senate has been called by the Senator from Michigan will not be taken up to-day for consideration. Representing in part here a very large interest in the copper mining and smelting of the United States, and desiring that the objections of that interest to the passage of this bill, which, in their opinion, is a species of class legislation for the benefit of a favored few to the injury of the many, should be presented to the Senate.

The foregoing embodies the theme of the opposition from the then smelting and fabricating centers of Baltimore, New York, and Boston. Senator Whyte was trying to perpetuate at Baltimore, in particular, the generation-old practice of unlimited importation of practically duty-free copper ores from the convict mines of Cuba and the peon areas of Chile and Venezuela, yet constantly seeking high duties as against the imported manufactured copper article.

Senator Chandler of Michigan on December 19, 1868, states the following:

Mr. President, the parties in interest in the State of Maryland have been frequently heard before this body. Their argument has been spread upon the table of every Senator, session after session, heretofore, and their whole argument, I believe. The real point at issue is this: Chilean ores, the product of penal labor, are brought in at a nominal duty. * * * The amount of capital invested in the copper-mining interests is over $50,000,000. The amount invested in these smelting works is very small. I can not say how much, for I have not had occasion to investigate it; but it is comparatively small.

The cost of mining and delivering a pound of copper is 20 cents; $400 a ton. The cost of smelting it is a cent and a quarter a pound; $25 a ton. Now, sir, is all this vast capital to be sacrificed for the benefit of a single smelting company?

The domestic copper miner of 1931 is being destroyed through the unlimited importation of duty-free copper from Chile, just as his economic forbear, in 1868, was being destroyed by Chilean copper importations.

Senator Jacob M. Howard, of Detroit, Mich., on December 19, 1868, made the following statement:

The number of mines in the Lake Superior country alone within the last two or three years, I do not remember exactly the period, has not been less than 80, which have been operating at no great advantage to themselves. * * * Only 11 of those mines are in operation. * * * that at the present time there are not less then 1,500 tenements in the Lake Superior country once occupied by miners and employees of the mines which are now tenantless, boarded up, and their families have gone away and are seeking elsewhere for employment because they can no longer be employed by the companies which once employed them. * * * I appeal to the friends of American industry, I appeal to the friends of protection to a reasonable degree, to take this great interest not only of my State but of other States of the Union into consideration and give those companies the aid which they honestly deserve.

The domestic copper-mining industry in 1931, is in the same desperate condition proportionately as described aforegoing by Senator Howard. Work has ceased in more than 80 per cent of our domestic copper-mining districts, thousands of homes have been abandoned, and tens of thousands of citizens have had to leave the domestic copper-mining districts due to the continued un-American practice of allowing slave-labor copper of Africa and the Chilean copper, to come in free of duty.

Senator Simon Cameron of Harrisburg, Pa., on December 19, 1868, states as follows:

I have no doubt, with the knowledge I have before me, that unless we pass a bill like this the miners of Michigan will be driven out of employment entirely. The furnaces in Maryland are among the very few in the country. There are two of them, I believe, and there are but very few anywhere else in the whole country. They can get their ore, if they will, as cheaply from Michigan as they do now abroad. It will come down by the lakes to Erie, and down the canal to Pittsburgh, and from thence to Maryland at very little cost; but they have been in the habit of getting it from abroad, and like all other habits it is hard to change.

It is quite evident from the record that the Baltimore and other Atlantic tidewater smelters were not interested in smelting domestic ores. Hence, Senator Cameron's suggestion met with their opposition. These smelters wanted to continue to ship in the very low-cost foreign copper ores to enable them to make much greater profits than were obtainable by using the higher-cost domestic ores.

Senator Justin S. Morrill, of Strafford, Vt., on January 18, 1869, made the following statement:

We are obtaining at the present time, with a strong probability of an increase, a very considerable amount of copper ores from the British Provinces, and these are all sulphurets.

We are obtaining a much larger amount of the carbonate ores from Cuba and from Chile. * * *

I do think it would be wrong to strike down the importation of all carbonate ores, for at the present time they afford a very valuable trade to our shipping interest, and a large amount of capital is invested in smelting the ores in quite a number of the Atlantic cities. * * * If any Senator here feels a lively interest in the protection of these sulphuret ores, it ought to be myself, because they are located in my own State and in my own county; * * * the fact is that the country is now using far less of copper than formerly. * * * In the first place, the country has abandoned the use of copper in its coinage. In the next place * * * the sheathing metal, which, perhaps, affords the largest amount of consumption of copper * * * the introduction of iron vessels has superseded the use of copper for that purpose to a very large extent; * * * Under these circumstances it is impossible that any great increase in the consumption of copper can be had.

Senator Morrill states that the British Provinces (Canada, Newfoundland, and Labrador) were increasing their shipments of sulphurets; these in conjunction with the copper carbonate ores of Cuba and Chile made the perfect metallurgical mixture as of 1868. Senator Morrill's prophecy as to a future lessened use of copper after 1869 seems rather strange when reviewing the enormous consumptive increase of copper during the past 62 years.

Senator Chandler, of Michigan, on January 18, 1869, stated as follows:

The Senator from Vermont told me that a few years ago, when we were reorganizing the tariff, he himself proposed a duty upon copper and copper ores, and that then we of the West declined it because we did not need it. That is true. At that time our ingot copper was bringing 28 cents a pound in gold, and it cost about half as much to raise the copper then as it does now. It is now worth about 23½ or 24 cents in currency and costs double the amount to raise that it did then. It is an interest in which more than $50,000,000 of capital is engaged, an interest that is absolutely being crushed by foreign competition—the competition of convict-raised ores in Chili. * * *

Now, Mr. President, copper has been called a raw material. The Senator from Connecticut (Mr. Ferry) represented it as a raw material. Well, sir, 2,000 feet under ground, embedded in solid rock, it is a raw material, but it costs us 20 cents a pound to mine and raise that ore to the surface and put it into ingot copper, while it costs his manufacturers of clocks not more than 2 or 3 cents a pound to put the sheets into clocks. It is a raw material in the bowels of the earth; but it costs more to raise it and put in form of ingot copper than it costs to manufacture it after it is in that form.

Now, sir, after you have voted liberal tariffs for the protection of all manufactures, we claim that this great interest of Michigan and of the Nation should receive a reasonable protection, or protection enough to keep our works in operation. Three-fourths of the mines of Lake Superior are to-day stopped because these foreign carbonates raised by convict labor, with a duty on the Chilean value of 5 per cent, are brought in and smelted at such a price that we can not run our works in competition with them.

As Senator Chandler states, we of the West, whether in 1861 or 1869 or 1929, may not have needed a copper tariff, but when cheap foreign copper controls the domestic market as it does overwhelmingly to-day, it behooves the domest c miner to seek immediate protection.

Chilean copper was the domestic copper miner's menace 62 years ago, according to Senator Chandler, just as it is the destructive and ruinous competitor of to-day.

Senator Orris S. Ferry, of Norwalk, Conn., opposing the copper tariff act, on January 18, 1869, made the following statement:

Now, sir, what interests come in conflict with the Lake Superior mining companies? We have before us, adverse to this bill, the petition of the Baltimore Copper Co., with a capital of $1,000,000; we have a petition of shipbuilders of the United States; we have a petition of ship owners of the United States; we have a petition of three California mining companies; we have the petition of Moore & Co., of the Keystone copper mine; another of the copper mines of Nevada; another of the Mineral Hill Mine, of Maryland; of the Cornwell Ore Bank, of Pennsylvania; of the Bear Hill Mine, of Maryland; and of the Waterbury Copper & Brass Co., of Connecticut. * * *

I find upon the Atlantic coast in the smelting of ores four corporations: The Baltimore Copper Co., as I have said, with a capital of $1,000,000; the Bergen Point Smelting Co., with a capital of $250,000; the Revere Co., of Boston, with a capital of $500,000; and Crocker Bros., at Taunton, Mass., with a capital of $500,000.

And it is substantially admitted here that the passage of this bill, levying this tax upon importation of the carbonate ores, will strike down and destroy all the great interest, and connected with this interest is also the commercial interest engaged in the importation of these ores from Chile.

Senator Ferry's plea of 62 years ago asking for the admission of copper carbonate ores free of duty, finds rigid support on the part of the present day Atlantic tidewater smelter, refining, rolling mill, and highly protected domestic copper manufacturing industries. These interests have everything from copper ores to copper ingot on the free list, and they are scouring the seven seas in search of cheaper and still cheaper copper for their highly protected manufacturing plants.

Senator Chandler, of Michigan, replying to Senator Ferry on January 18, 1869, states as follows:

Sir, the Senator from Connecticut does not surprise me in his opposition to this bill. It is not the first time that Michigan interests have been attacked from Connecticut. She has attacked our lumber, our salt, our copper, our iron, our wool, everything that we produce. * * * The day has gone by when they are to be let alone with these really protective and remunerative tariffs that exist in all of the manufacturing States.

If you are going to strike down these new interests rising in the West and Northwest, rest assured we will not let you alone, * * * every article produced in the State of Connecticut is protected overwhelmingly; and now where we have over $50,000,000 invested in works that save to this Nation millions upon millions in gold that would to-day go out for the purchase of this article if it were not produced here, the Senator says "Let us alone; we will not give you any protection; stop your mines; what do we care." "Very well," I say in return, "we will stop your factories if it comes to that; the day has gone by for protecting one interest to the injury of another."

The fairness of Senator Chandler's appeal for equal protection for all met with a favorable response. It is to be hoped that the copper miner of to-day can again secure protection for his product without having to give vent to threats paralleling the foregoing.

Senator Whyte, of Maryland, an opponent of the copper tariff act, on January 18, 1869, made the following statement:

I would ask the Senators who have listened to the discussion of this bill, what reasons have been proposed why this change should take place? I have looked and listened in vain for any argument other than that it is required and wanted by the copper miners on the southern shore of Lake Superior. I find no argument of a general character; I find no reasons large and liberal for such a policy; nothing whatever to command the support and sanction of the Senate but that the copper miners of Lake Superior desire and demand it. * * *

The smelters and miners on the Atlantic coast tell you that if you take the tariff of 1861 and revise it by granting a greater rate of duty than that already imposed, the duty becomes prohibitory, and while you benefit that class in

Michigan, you but rob Peter to pay Paul; you but take from the miners and smelters on the coast and in the interior of the country their livelihood and their support because the tariff you impose becomes prohibitory in its character. * * *

Why, Mr. President, when I look to the operation of this bill and see that while it may be beneficial to the gentleman's constituents in Michigan, it commits a most destructive assault upon worthy people in other parts of the country, I am amazed that Senators whose voices so often thunder in the Senate in behalf of equal rights and equal privileges to all American citizens should stand upon this floor and ask protection to a class not exceeding 10,000 in the aggregate as against a class numbering hundreds of thousands throughout the United States. * * *

That is the effect of this bill—a bonus to the Lake Superior mines of $225,000 this year, and next year, and in proportion as they produce. Where does it go? Who is to pay for it? The shipbuilders of Maine and Massachusetts; the manufacturers of Connecticut, Massachusetts, and New Jersey. All those have got to pay for the copper that they roll a bonus of $225,000 to the copper mines of Lake Superior.

Senator Whyte admits that a tariff on copper imported in ores will aid the domestic copper miner but will ruin the Atlantic tidewater smelters that depend upon smelting foreign ores for their livelihood. This plea for free copper ores merely parallels the Atlantic tidewater area plea for free ores of lead, zinc, iron, manganese, etc.

Senator Sherman of Ohio, chairman of the Committee on Finance, on January 18, 1869, states as follows:

Indeed, copper forms the element, the basis of manufacture in a multitude of small articles of household economy where the cost of the copper forms but a very small portion of the cost of the finished article. It seems to me, therefore, that the increased cost of copper made by this bill will not seriously damage any manufacturing industry, while it will give a reasonable relief to an interest that on all hands is admitted to be in the sorest distress.

These are the reasons, briefly stated, why the Committee on Finance reported this bill without amendment. It does not, as I said before, affect any of the interests of Ohio. We are not interested in copper or the production of copper ore. But we can not maintain the tariff system by any serious discrimination between articles of American production. The idea of exempting the raw material from all taxes and putting a heavier duty on the manufactured article is only a question of degree. Every article of American production is a raw material in some State. Copper to the miner is not a raw material; it is the product of his labor. The copper in the mine is of no value whatever. The value of the copper represents the amount of labor it costs to produce it. When it is smelted and put into bars it has an additional value. Then the sheet copper becomes a raw material in the manufacture of a great multitude of other articles, and those articles themselves become the raw material with which the house-builder builds a house, with which a locomotive may be built, and the locomotive completed, with copper making a part of its cost, becomes a raw material for the great railroad interests of the country; so that it is impossible to discriminate and say that on an article of manufacture a duty may be levied, but on a raw product of the mine, or of the farm, or of the workshop no duty should be levied. I believe that the coarser the fabric, the more bulky it is, the less protection is required.

It seems to me that the rule and the theory of protection would extend to every branch of American industry. The great difficulty is in apportioning and arranging and distributing the burden of protective duties.

I think that this bill is not an unreasonable duty, and that the passage of this bill will not oppress any interest, while it will relieve the copper interests of Lake Superior.

Senator Sherman points out that the average consumer of copper and its products will be but little affected by according the domestic copper miner adequate protection. He likewise emphasizes that protection should be universally distributed—extended into each and every avenue of industrial activity—whenever labor is used to

convert materials from one form or condition into a different or varying state.

Senator Howard, of Michigan, on January 18, 1869, spoke as follows:

> Sir, we appeal to the Senate to give us a reasonable measure of protection. We can not say that we are satisfied as citizens of Michigan while our copper has no protection at all comparatively, and the iron of Pennsylvania is protected to the tune of 50 per cent, and the lead of Iowa and the Mississippi is also protected to the same degree. We are not satisfied with this, sir. If iron and lead are thus to be protected to the extent to which these several articles receive protection at the present time, we are not content that our interests should be totally neglected and treated even with contumely and contempt by certain gentlemen in this chamber. We ask simply for equal justice; no, sir; not even equal justice; we ask for enough protection to make it certain that the capitalists and the laborers whose money and whose labor is so intimately connected with the copper mining interests of Lake Superior shall receive a proper degree of regard at the hands of the Senate.

Senator Howard points out that protection should be bestowed equitably; that if some metals are rigidly protected, it seems strange indeed that a single metal like copper should be discriminated against, should be made to remain in the realm of near free tradism.

Senator Chandler, of Michigan, on January 19, 1869, made the following statement:

> This copper interest is not confined to the State of Michigan. Tennessee, Vermont, West Virginia, California, and other States are interested as well as Michigan; and let me say that the California mines, the richest mines in the United States, are stopped to-day, are not raising a single pound, because you do not grant them this little protection. They could mine copper enough there, for aught I know to supply the world, but they can not raise it in competition with the Brazilian ores. * * * Michigan alone furnishes 17,000,000 pounds of that 25,000,000 pounds and has done so for the last four years on an average. Other parts of the United States have supplied so as to make up over 20 out of the 25,000,000. So the product, instead of being one-third of the consumption of the United States, if four-fifths of the consumption to-day, and with this little protection we can supply the whole consumption within one year. Why, sir, the amount of copper produced last year would amount to $5,000,000 in gold. That would have gone out of the United States in gold for the purchase of that copper but for the product of these mines. Are you prepared to say that these mines shall be shut up and your gold go abroad for the purchase of copper when the earth is filled with the mineral that you require?

Senator Chandler predicts that a copper tariff will stimulate the development of all potentially valuable domestic copper areas. Likewise that this development would furnish an ample future domestic supply of copper. Furthermore that it was essential from an economic standpoint to retain within our country the gold equivalency of our domestic copper requirements, by securing same from domestic sources.

The copper tariff bill (H. R. 1460) as amended passed the United States Senate on January 19, 1869. The yeas and nays being taken, resulted: Yeas 38, nays 11, absent 17.

HOUSE OF REPRESENTATIVES

The amended House bill No. 1460, passed by the Senate on January 19, 1869, was returned to the House on January 20, 1869. On February 1, 1869, Mr. Schenck, chairman of Ways and Means Committee, moved to suspend the House rules so as to give immediate consideration to the amendments passed by the Senate. The amend-

ments were passed under suspension of the House rules on February 8, 1869. The question having been taken by yeas and nays resulted: Yeas 112, nays 56, not voting 54. On February 23, 1869, the Speaker laid before the House the veto message of President Johnson, dated February 22, 1869. Whereupon the House, after due consideration, passed the bill again, over the President's veto. The yeas 115, nays 56, not voting 51. Two-thirds of the vote being in the affirmative, the action of the House was communicated to the Senate.

On February 23, 1869, when President Johnson's veto message was being discussed, some interesting information was presented by various Members.

Congressman Austin Blair, of Jackson, Mich., favorable to this bill, stated the following:

> There is a great moneyed interest somewhere which demands the defeat of this measure. There is some greedy monopoly that requires that the great industries of American copper mining shall perish in order that an interest not American shall be enriched by its fall. The center of this interest is understood to be in Baltimore. * * *
>
> This bill involves no principle whatever. Its sole purpose is to place the production of copper in the United States upon something like a footing of equality with that of most other industries in this country. * * * Our object, therefore, has not been to seek especial protection for this interest, but only to give it that fair and just measure which has already been given to other similar interests. Seeing this, many gentlemen not overfriendly to the protective policy have supported this measure as one tending merely to produce equality. * * * It does not avail to tell him (President Johnson) that it is not class legislation to defend by law against a ruinous foreign competition the thousands of American laborers who are engaged in the production of copper not only upon Lake Superior, but in nearly every other of the great mining districts of the country, because these thousands are thereby made consumers of the products of other thousands engaged in many other branches of productive labor. Nor can he perceive that when he counsels these laborers to abandon the forms of industry which they understand, and enter upon agriculture which they do not understand, not only is the value of their work in a great degree destroyed, but the value of all farm labor is thereby in a certain degree reduced. A nation of farmers only can not prosper, as all experience shows. * * *
>
> Or does the President really understand that his friends, the smelters of foreign cheap ores, will, as it now stands, quickly destroy the American production and thereby secure to themselves first a monopoly of the American market, and then such an increased price as their exclusive monopoly will enable them to demand? * * * In what dictionary did his Excellency seek for a definition of the word protection as used in this country? It has heretofore been supposed to include not only fostering of young and feeble interests, but the defense of well-established industries against the destructive competition of the low-priced labor of those countries that oppress the people and deprive them of the comforts and refinements of life which our laborers are enabled to possess. * * *
>
> The gentleman from Maryland [Mr. Phelps] has urged that it is necessary to have the foreign carbonates to mix with the domestic sulphurets for the purpose of fluxing the latter. Upon this point I may say that the evidence before the Committee on Ways and Means in the House and the Finance Committee in the Senate has shown conclusively that the carbonate ores from Chile are brought into this country because they require our sulphurets to flux them; but as the mines in this country which are producing sulphurets in quantity smelt their own ores, the Baltimore smelters are dependent on Chile and Canada for the requisite sulphurets, which are brought to Baltimore in large quantities. * * *
>
> Let me say further that when these carbonates, the product of peon labor, are brought from Chile, the smelters do not always get the American sulphurets for fluxing the ore, but to a large extent obtain sulphurets from Canada. The representatives of Canadian interests have been here with their money to defeat the passage of this bill, because Canada is interested in sending to Baltimore her ores which, being mixed with carbonates from Chile, defeat entirely the whole American interest. * * *

The Baltimore smelters are dependent on Cuba and Canada for the requisite sulphurets, which are brought to Baltimore in large quantities, principally from Canada. The Canadian mines are represented here in force, and are spending money on a large scale to aid the Baltimore works in defeating this bill. * * *

The carbonates which are in excess in Chile, * * * are brought to Baltimore, where coal is cheap, * * * and smelted with sulphurets from Canada, our mines in the Eastern States producing a very small quantity, not more than 3,000 tons per annum of 7 to 8 per cent ores. The Wellington mines on Lake Huron, Canada, furnish Baltimore with from two to three thousand tons of sulphurets per annum, averaging about 25 per cent, and the mines in lower Canada from five to six thousand tons. * * *

When the President argues that this is a local interest I deny the allegation. Not alone Michigan, but California, Tennessee, Arizona, New Mexico, and almost every other mineral section is interested. * * *

The Senators and Members of the House are striving to bring about some scheme or plan to relieve the country financially. The copper mines will produce when properly protected, over $6,000,000 per annum, and in so doing give employment to 30,000 persons. If they are obliged to stop work, which will be the case if the bill fails, this number of people are thrown out of employ, and coin or bonds must be sent abroad to purchase the supply needed in the United States.

Congressman Blair emphasizes that some greedy monopolistic interest centering in Baltimore was very much opposed to a duty on copper imported in the form of ores. He also states that the domestic copper-mining industry was entitled to a protective equality, identical to that accorded nearly every other domestic industry; in securing this they could give employment to thousands, who in turn would aid the farmer by purchasing his food products. Mr. Blair also clearly points out that the eastern smelters sought only the cheap, high-grade copper ores of Chile and Canada and were not interested in the higher-cost domestic ores; also that the Canadian copper interests were in Washington striving to defeat the copper tariff bill. Mr. Blair further states that Arizona, New Mexico, California, and Tennessee, in addition to many other States, besides Michigan, were interested in securing protection for their local copper-mining industries. Congressman Blair also called attention to the fact that through securing the requisite copper for domestic consumption from domestic copper areas, we not alone accord a livelihood to vast numbers of our own citizens but we likewise retain our gold at home.

Congressman Samuel B. Axtell of San Francisco, Calif., discussing the condition of the copper-mining industry within the Pacific coast area, on February 23, 1869, made the following statement:

It will be seen that the exports fell off from 26,000 tons in 1866 to 4,000 tons in 1867, and for the causes which have been so well stated by the gentlemen who have preceded me. It is to prevent still further depression of this great interest that the present protection is asked. And, sir, it is not only a Lake Superior interest, but an interest of the whole Pacific coast from Arizona to Washington Territory, where there is an unbounded field of copper. * * * The cost of labor on that coast is so great that this interest can not compete with the same interest in Cuba, Chili, and Australia; and it is to be hoped that the price of labor will never come down to that point which will enable us successfully to compete with those countries. * * * We have a large number of smelting works upon the coast of California, some 12 different establishments, costing in the aggregate $496,000 in gold, and my colleagues and myself have voted steadily for this bill all the way through because we believe that this interest needs protection. We need to develop our mining interests. We wish to send out men to discover and open new mines so that we shall not be dependent upon foreign countries for a product so essential to our existence.

Congressman Axtell emphatically states that the Pacific coast area desires protection, from Arizona to Washington Territory, to enable them to develop the latent copper resources of that great section. Mr. Axtell presented two interesting tables, the first showing exports of copper and ores since 1862 to 1867 from San Francisco to New York, Boston, and England; the second table gives a list of the 12 copper smelting works erected within California, Arizona, Oregon, and Nevada.

Congressman William Higby, of Calaveras, Calif., on February 23, 1869, states as follows:

> The statistics exhibited by my colleague (Mr. Axtell) show that there are other local interests affected by this bill than that of the Lake Superior region. I wish merely to state in connection with the facts already submitted, that the first copper vein discovered in California was in my own county, and the greatest and most expensive claim that has ever been worked is in the same county. There was employed at one time on that and two large claims several hundred men in excavating the raw copper. A town grew up in the vicinity containing at one time about 3,000 inhabitants, and business of all kinds was prosperous. In the year 1866 there was the greatest amount of material taken from that mine. Since that time the business has dropped off, as shown by the figures exhibited by my colleague, so that a town which once contained every element of prosperity has become reduced until the population is very small and the business is next to nothing. I cite this as an instance of the result of the want of proper protection. There was not a sufficient tariff on foreign copper, either in the raw or the manufactured state, and the consequence was this interest became depressed until it became in a great measure abandoned.

Congressman Higby points out the distress that ensued to the lack of sufficient protection, the virtual abandonment of the rich copper areas within Calaveras County, Calif., on account of the continued domestic importation of the cheaper cost Chilian and Canadian copper ores.

Congressman Schenck, on February 23, 1869, made the following statement:

> Now, sir, I wish to say a word as to what influenced the Committee of Ways and Means, which I represent, in bringing forward a proposition of this kind. First, what protection does it afford to the copper interest? It has heretofore had only about 8 per cent ad valorem protection. This was occasioned by the fact that the great mining interest in the interior of the country, and especially in the State of Michigan, felt that they could sustain themselves without being protected as lead, iron, and other metallic interests were. They found, however, their mistake. They come now and seek protection and we propose to give them protection, which it is not true to say puts them in advance of other interests protected, but which scarcely brings them up to the level. They have not yet given under this bill as much protection as you give to iron, lead, and many of these other kindred interests. * * *
>
> I will only say that this bill was brought in here after a thorough examination of the whole question, and from a conviction that while we could not get any more general tariff bill at this session for the protection of the various interests of the country, here was one, not a stock-jobbing operation, but a fair industrial pursuit, which was suffering by far more than any other brought to the attention of the committee, and it might be well, if we could do nothing better, to resort to some little special legislation for the benefit of this interest alone.

Congressman Schenck, of the Ways and Means Committee, states clearly and concisely why his committee reported out House bill No. 1460. The emergency confronting the domestic copper-mining industry as of 1869 was less acute than that confronting the industry as of 1931. The domestic copper miner of to-day is preparing a plea to Congress asking for the same special legislative relief accorded his economic forbear 62 years ago.

UNITED STATES SENATE

The House of Representatives notified the Senate, on February 23, 1869, that they had passed House bill No. 1460, over the President's veto. The Senate likewise passed the bill over the President's veto on February 24, 1869. The result of the vote was: Yeas 38, nays 12, absent 16.

Tariff Details 1869 to 1883

The charge was often made by the opponents of the 1869 copper tariff act that it was special legislation, aimed solely to grant and maintain a copper monopoly in favor of the Lake Superior copper mines, within the northern peninsula of Michigan.

Those in favor of the tariff pointed out that it would aid in developing the total copper resources of our country; that a copper tariff would stimulate the development of all the probable copper areas within the United States, not Lake Superior alone.

In 1868, Michigan produced 80 per cent of the total domestic copper production; in 1869, 95 per cent; in 1880, 82 per cent; in 1890, 39 per cent; in 1900, 24 per cent. During the interim, 1869 to 1900, the copper production of Michigan shows a rapid, uniform increase throughout. However, the total domestic copper production increased far more rapidly, as the aforementioned percentages denote.

The charge was likewise made that our domestic copper areas would be unable to supply our domestic copper requirements. We note that within six years, by 1875, our domestic mines not alone supplied our total domestic requirements but had a considerable surplus available for export.

Dividend Earnings 1862–1883

It is difficult, if not impossible, to secure rigid data pertaining to average domestic copper costs and profits per pound of copper just prior to 1869 and a few years subsequent thereto.

There is, however, data available as to the total dividends paid by the Lake Superior copper companies for several years prior and subsequent to 1869. The average dividends per pound of copper paid over a span of years should parallel and contact very closely with the average profit per pound of copper during said years.

The Lake Superior district during the years just prior and subsequent to 1869 mined more than 80 per cent of our domestic copper, hence said district data should approximate very closely that for the total domestic copper production.

Referring to Stevens Copper Handbook, we are able to deduce the following data:

We find that during the 4-year Civil War period, 1862–1865, the average dividend per pound of copper paid for said period equals 5.3 cents.

We also ascertained that subsequent to the war period and to the end of 1868, for the 3-year period, 1866–1868, the average dividend per pound of copper for said period equals 0.73 cent.

It was also ascertained that for the year 1869, when the tariff became effective, yet not beneficially operative, the average dividend per pound of copper equals 0.78 cent.

We further ascertained that for the intervening 14-year period, when the 1869 tariff was operative, from 1870–1883, the average dividend per pound of copper equals 5.4 cents.

From the foregoing data we note that the copper producers during the Civil War period averaged a dividend profit of 5.3 cents per pound.

Subsequent to the war and during the years 1866, 1867, and 1868, we ascertain that the average annual dividend profit per pound of copper was 1.23 cents, 0.63 cents, and 0.47 cents, respectively, for each of said years. This rapidly descending dividend profit per pound of copper, for these three years, clearly indicates the motive actuating the domestic copper producers' request for a copper tariff.

The copper producers began to ask Congress for a copper tariff in 1867. A determined demand for a copper tariff was begun in the summer of 1868 and continued until granted by Congress February 24, 1869. The copper producers stated in 1868 that they were entitled to the home market for disposal of their product, but were unable to control same, due to the excessive importations of foreign copper in ores, regulus, bars, pigs, and ingots.

We note aforegoing that the average dividend per pound of copper, for the total 14-year period when the 1869 tariff was in effect, from 1870–1883, equals 5.4 cents. This nearly coincides with the 4-year war dividend which equals 5.3 cents, and seven times the 3-year dividend average for the low copper tariff period of 1866–1868.

The foregoing analysis certainly proves that a copper tariff aided the domestic copper producer as of 1868. During said year their average dividend had dropped to only 0.47 cents per pound. During the next 14 years the dividend earnings averaged 5.4 cents per pound, or twelve times the dividend average for 1868.

Copper Statistics, 1869–1883

It was also ascertained that during this 14-year period when the copper tariff act of 1869 was operative, we exported an average of about 15 per cent of our total domestic copper production. We further note that during the 5-year period, 1875–1879, we exported about 30 per cent thereof. It was further ascertained that this export copper was sold at prices ranging from 2 to 5 cents per pound less than the price received within the domestic market. Notwithstanding this large percentage export of domestic copper "dumped" abroad at lessened prices during these 14 years, the domestic copper producer received dividends averaging 5.4 cents per pound.

We also note from Table 1 that the domestic copper production of 1868, amounting to about 26,000,000 pounds, increased to about 116,000,000 pounds as of 1883, a 450 per cent increase during these 14 years.

A copper tariff undeniably aided the oppressed copper miner of 1869, and in view of this proven fact it is certainly fair to assume that an adequate copper tariff will operate equivalently during the present depressed copper era and the years to come.

Chapter V

1883 TO 1890

In the tariff act of March 3, 1883, we find under Schedule C the following paragraph:

> Copper imported in the form of ores, 2½ cents on each pound of fine copper contained therein; regulus of and black or coarse copper, and copper cement, 3½ cents on each pound of fine copper contained therein; old copper, fit only for remanufacture, clippings from new copper, and all composition metal of which copper is a component material of chief value not specially enumerated or provided for in this act, 3 cents per pound; copper in plates, bars, ingots, Chili or other pigs, and in other forms, not manufactured or enumerated in this act, 4 cents per pound; in rolled plates, called brazier's copper, sheets, rods, pipes, copper bottoms, and all manufactures of copper, or of which copper shall be a component of chief value, not specially enumerated or provided for in this act, 35 per cent ad valorem.

Comparing the foregoing copper duties with those of the 1869 copper tariff act (see Table 2), we note that there was a reduction of ½ cent per pound on copper in ores, regulus, and old copper, and 1 cent per pound on copper in bars, pigs, and ingots.

Attention will be directed to the fact that when the ore and ingot rates were reduced aforegoing, the manufacturer's rate was likewise reduced from 45 per cent to 35 per cent ad valorem.

This tariff reduction on copper in ores and ingots was not a serious one as of 1883, due to the considerable protection still existent; secondly, to the extra-ordinary development during this period, 1883-1890, of very large and extremely high grade copper deposits within Montana and Arizona, permitting our domestic mines to produe copper in large volume and at a very low cost.

Before proceeding to consider the factors developed during the Tariff Commission hearings of 1882, upon which was predicated in part the aforesaid reduction in copper duties, it is deemed interesting to review certain domestic copper production details down to 1883.

For 1869, the year in which the copper tariff act was passed, we find that Michigan produced 95 per cent of our total domestic copper production and down to 1881 never produced less than 82 per cent thereof.

We note, however, that the production of Michigan for the years 1881, 1882, and 1883 amounted to 76 per cent, 62 per cent, and 51 per cent, respectively, of our total domestic copper production.

We further find for 1883, Michigan produced 51 per cent of the total domestic copper production; Montana and Arizona each produced 21 per cent thereof. In other words, Michigan, Montana, and Arizona produced 93 per cent of the total domestic copper output for 1883. From 1845–1882, Arizona and Montana only produced 5 per cent and 2 per cent, respectively, when comparing their total copper production with that of Michigan. This emphasizes the preeminent position of Michigan as a domestic producer of copper prior to 1883.

During the copper tariff debates of 1868 and 1869, the opponents of the tariff directed their attack against Michigan solely, due to the fact that Michigan then produced about 90 per cent of our total domestic production.

It will be seen, when reviewing the hearings preceding the enactment of the 1883 tariff act, that the opponents of a copper tariff still attacked Michigan as being the party of sole interest. A review of the facts show that Montana, Arizona, and 12 other States, together, produced as much copper as Michigan did in 1883. These 14 rapidly developing copper-producing States were likewise vitally interested in the maintenance of an adequate copper tariff.

Tariff Commission Hearings of 1882

The hearings before the Tariff Commission of 1882 appear in two volumes, pages 1 to 2617. The hearings began on July 22, 1882, and ended November 14, 1882.

TESTIMONY OF E. P. WHEELER

(P. 219)

Mr. E. P. Wheeler, representing the New York Free Trade Club, on July 26, 1882, requested that copper ore be placed on the free list, and stated the following:

> Let me say in this connection, and it shows the effect of changes of duties, that at that time it was very common for vessels engaged in the South American trade to bring copper ore from South American States, especially from Chili, in ballast to New York, and there was a considerable smelting which grew up in New York engaged in the smelting of this ore; but as soon as the duty was imposed on copper ore, that industry there was entirely destroyed, because the value of the ore was not sufficient to enable them to stand the duty. In point of fact, there is no copper ore of any consequence imported into this country now, or if there is, the amount is infinitesimal. I have the figures here, but they are so small as to practically amount to nothing. The entire value of copper ore imported into this country in the year ending June 30, 1880, amounted to only $165,000 and of copper in ingots only $86,000; so that, practically, the operation of the tariff is to give a monopoly of the copper production to the copper mining interests of this country, and it operates as a tax upon all these manufacturers who are engaged in the manufacture of copper and brass goods.

Mr. Wheeler was an ardent free trader and requested many other articles, besides copper, be placed on the free list. He was ably answered by Mr. Joseph Wharton, which follows:

TESTIMONY OF JOSEPH WHARTON

(Pp. 203–204)

Mr. Joseph Wharton, an ardent protectionist, stated on July 26, 1882, the following:

> Take the case of copper. When the Lake Superior mines were opened we had some small factories of copper, which drew their supplies mainly from South America. The ores of Chili and Peru were brought to this country, and in Baltimore, Boston, and New York, there were prosperous manufactories of copper; but they were all trifling compared with the huge production of copper in the Lake Michigan region. I have been in Washington before committees of Congress for many years; for at least 20 years I have been there whenever there was a tariff fight on hand, and I remember when the fight occurred there on copper. At that time the great mining companies of Lake Superior were struggling and doing the best they could to make their way, and the supply of Lake copper was just beginning to be developed in this country. The existing duty on copper was decided upon and it is a higher duty perhaps than is necessary now. But the Lake Superior copper production has increased under it from the very trifling

figure of those days to an enormous figure—I do not recall the figures exactly, but it is so great as to fill this country with copper, and almost prevent any importation, not because of the duty being too high, but because of the immense production. There is to be sure, a trifling supply of English copper coming in all the time, but our fostering of our own copper production gives us a great deal of copper to export, and it also gives this country copper of a higher quality than any other country has. All the European countries use the old-fashioned smelting processes of extracting copper from ores, and, as a result, all their copper contains impurities and is not fit for the fine uses that the Lake Superior copper is fit for.

Mr. Wharton points out that the destruction of the smelters at Baltimore, Boston, and New York, that smelted the low-duty, cheap Chilean copper ores prior to 1869, was a trifling loss in value compared to the huge gain for our country that resulted through developing an ample domestic supply of copper as the result of the high protective duties accorded in 1869.

It is certainly worth while to maintain continuously an ample supply of domestic produced copper, even though in so doing it means the destruction of plants to-day that are duplicating the practices of 1868. These plants of to-day must be shorn of their power to destroy our domestic copper mining industry, through their huge importations of duty-free copper.

TESTIMONY OF SAMUEL T. SNOW

(P. 379)

Mr. Samuel T. Snow, treasurer of the Revere Copper Co., of Boston, Mass., on August 10, 1882, made the following statement:

We import no copper into this country, and we import no spelter, or substantially none. All the copper that is used in this country is mined here, and all the spelter substantially that is used is obtained in this country. So far as copper is concerned, we go a step beyond that. We produce some years more than we can sell, and, for the purpose of adjusting the market so that the duty on imported copper can be availed of, a certain amount of our own production is shipped abroad at any price it can bring, so that the quantity to be disposed of here is reduced to the requirements of the market, the price of which can be kept up to the point made by the addition of the duty on the importations, if any are made. So that in fact we do not import any copper or any spelter.

Mr. Snow also stated that he was not averse to having copper and spelter placed on the free list. If this could be consummated his company would then be able to manufacture yellow sheathing (60 per cent copper) for export.

TESTIMONY OF JOHN L. GWINNELL

(P. 393)

Mr. Gwinnell representing Peter Hayden of New York, manufacturer of saddlery hardware, on August 10, 1882, made the following statement:

There is just one single item that I wish to refer to in addition to what I have already said, as it shows one of the advantages that the English market has over ours. During the last year there were about 20,000 pounds of copper sent out of this country by the copper mines, at a price about 5 cents a pound less than we can go in the market and buy it for to-day. It was sent over to England with the positive understanding that it should not be brought back here in that form. This gave them an advantage of 5 cents a pound on the material they used, and it went into articles of brass which they made out of this copper.

Mr. Gwinnell did not want the duty on saddlery hardware reduced; however, he was critical of the copper producer who "dumped" his surplus abroad at whatever price he could obtain.

TESTIMONY OF L. M'MULLEN
(P. 443–444)

Mr. McMullen, examiner in the appraiser's department, New York, on August 15, 1882, was questioned as follows:

Commissioner McMAHON. What do you say in regard to regulus of copper? We had some trouble years ago in regard to that black copper; there was difficulty in ascertaining the fine copper that was contained in the black copper. What do you say also in regard to copper in plates, bars, ingots, and pigs?

The WITNESS. Very little of that comes into this country; in fact it is exported to the other side. Perhaps this 5 cents a pound duty may be the cause of its not being imported; but I know as a fact that it is not imported. We used to have a large quantity of the regulus of copper coming from South America, but we do not have any at all now. Perhaps it would be well to let that remain as it is.

Commissioner GARLAND. Do you think the regulus of copper fails to be brought in on account of the high tariff?

The WITNESS. I suppose it is excluded on the ground that the duty is too high. * * *

The foregoing is submitted in order to show that the existing copper duties practically had stopped all the imports and that the only foreign business done was in exporting some domestic copper in ingot and manufactured form.

TESTIMONY OF J. B. SARGENT
(P. 599)

Mr. J. B. Sargent, of New Haven, Conn., manufacturer of shelf hardware, stated the following:

With the price of American copper in this country 5 cents per pound higher than in England and Germany, how can the American manufacturer of brass goods export them in competition with English and German manufacturers?

There was a short time when American manufacturers could buy American copper in London at the London market price and import it, free of duty, as a product of the United States, and in original packages, but the protected copper miners discovered the plan, and European consumption must now be guaranteed by the foreign buyer of American copper as a part of the bargain. And so the American manufacturer is protected 5 cents per pound out of pocket on what is used in this country, and he is substantially estopped from manufacturing copper or brass goods for export.

Mr. Sargent was seemingly an ardent free trader, and desired all raw materials to be placed on the free list. The foregoing statement emphasizes that the price differential between the London and the domestic market was exactly 5 cents per pound, the duty on ingot copper.

TESTIMONY OF HENRY M'SHANE
(P. 1392–1393)

Mr. McShane, iron, brass, and bell founder, of Baltimore, Md., on September 29, 1882, made the following statement:

The other metal in which I am interested is copper, which I believe has been protected long enough, as it is now an article of export with us. The mining companies resort to exportation annually in order to maintain high prices at home. By so doing they simply make consumers of brass goods pay into their

pockets the differences between London and New York prices. If this difference was spent in wages amongst the miners, it would be no loss to the public, but the difference of several million dollars takes the shape of profits for a few wealthy families. * * * The brass manufacturers of this country can successfully compete against European rivals, and it is to be regretted that so large an industry is restricted in its export business by being handicapped with a duty on its chief metal, which duty only benefits a dozen or two of people. If I had copper as cheaply as England, I could find sale for many thousands of dollars worth of bells and other brass goods in foreign countries annually, giving employment to an increased proportion of workmen in this country. I would be glad to see copper placed on the free list, as it is an article on which very little labor is expended, and it enters into brass compositions for mechanical purposes which absorb a vast amount of labor in their application. I am sure cheaper copper would create more wages to the workmen of New England and add to the volume of our exports.

Mr. McShane gave a long dissertation on the value of adequate protection for any and all articles produced within the United States. He, however, made an exception in the case of copper, which he thought had been protected long enough. The excerpts aforegoing are given as typical of the expressed viewpoint of the highly protected manufacturer who desires his raw material placed on the free list.

TESTIMONY OF W. G. CRENSHAW

(P. 1658)

Mr. Crenshaw, secretary of the Sulphur Mines Co. of Virginia, on October 6, 1882, furnished the following data:

But there is nothing to prevent the Spanish or Canadian miners, if all duty on pyrites is withdrawn, from importing ores with 5 to 7 per cent of copper free of duty. These ores are pyrites, and except by assay are not to be distinguished from those without any copper (Mr. Whitmore's statement) * * *.

I would like to add, that in one regard Mr. Whitmore seems to think a duty has been paid on the importation of these Spanish ores to the extent of 1.3 per cent on the copper. But the customhouse officers in New York tell me that only 60 cents per ton has been charged on the ore imported here. Nothing has been paid on the copper, * * *. If the present tariff law was enforced the duty would be about $2.70 or $2.80; but on all the pyrites coming in this year no duty has been collected on the 2.5 to 4.5 per cent of copper contained in it. It has come in under the head of unenumerated ores, and has only paid a duty of 20 per cent on a valuation of $3, while some of the ores shipped from Spain and England have been valued at from $10.50 to $11.50.

The foregoing has been submitted to show that sulphide ores from Canada and Spain, containing high percentages of copper, were evidently allowed to slip past the customs officers, in the guise of pyrites, by paying the nominal duty of 60 cents a ton, whereas on a 7 per cent ore the duty should have been six times that amount. Under such circumstances it is readily understood why the copper smelters in the vicinity of New York were able to carry on despite the high duty on copper in imported ores.

TESTIMONY OF PROF. E. T. COX

(Pp. 1953, 1954, 1955)

Professor Cox of San Francisco, Calif., appearing before the commission in New York, on October 7, 1882, made the following statement:

I believe in a tariff for the protection of home industries; but desire to call your attention to the tariff on copper ore, which acts directly against home manufacturers and commerce.

The tariff of 3 cents per pound on copper in ores prohibits their importation from Mexico and South America into the United States, and causes said ores to be shipped to England, France, and Germany. Indeed, Mexico and Chile are the chief sources of copper supply to the enormous smelting works of Swansea. Remove this duty and the copper ores of Mexico and Chile will naturally come to the copper smelters of the United States, and instead of being importers of copper metal, we will become large exporters.

I am credibly informed that no less than three copper smelting establishments had to shut down when the tariff on ores went into effect, so that now we have but two copper-smelting works on the Atlantic coast.

Nearly all the copper ores in the eastern part of the United States are sulphurets, while those of Chile and Mexico are mostly oxidized ores, which by mixing with the sulphides, greatly facilitate and cheapen the process of reduction. * * *

But I am likewise aware of the fact that Mexican copper ores, that would naturally come to the United States by rail and sea in large quantities, are, on account of the tariff, sent to Europe. The same may be said of Chile ores. * * *

Question. How would the introduction of these copper ores affect the extensive mining interests in the Lake Superior region?

Answer. I do not see that it would affect them at all in any way. It would be a benefit to all our smelting interests, even in Arizona, where we have smelting works, and we shall probably have some in New Mexico and Nevada. All these various smelting establishments are contiguous to the borders of Mexico, and will receive a class of ores that will be an advantage to their works.

Question. Don't you think it will conflict with the interest of the owners of copper ore in the United States?

Answer. No, sir; it will not. We do not produce enough metal now to supply the demand, and we shall have the ores that would naturally come here and that go to England and France. At Swansea one establishment smelts over 1,000 tons a day, whereas in this country the capacity at Bergen Point is only 150 tons a day. That could be easily increased if we could get the ores. The sulphate ores here have to be roasted and go through several processes before being subjected to the smelting process, making them much more costly to handle. * * *

I desire to state I have received a communication from a friend in regard to the effect of the tariff laws upon the copper manufacturing business, which I desire to submit at this time. * * * The letter referred to is as follows:

NEW YORK, *October 2, 1882.*

E. T. COX, Esq.:

MY DEAR SIR: I have read your remarks upon the effect of the tariff upon the copper manufacturing business, and, as a large manufacturer or smelter, I am glad to say what you have said I believe to be strictly the case.

Previous to the present tariff there were a number of smelters in the East, who depended largely upon supplies of oxidized ores from Cuba and South America to enable them to work up the sulphuret ores which this country could alone produce.

The Point Shirley Works, in Boston Harbor, and Mr. Crocker's works, in Taunton, both relied largely on South American carbonates, while the present Baltimore works were built to smelt Cuban ores.

Mr. Davis, the proprietor of Point Shirley, told me that the day the duty was put on ores he shut his works down, and they have never run since. The same story is about true of Crocker's, in Taunton; for, though he did not shut up, still he has not done much since. And the story is about the same for all the works; and it is only since the influx of western copper bullion and mattes has come that works have been able to live here at all. * * *

Now, the curious fact is that England, or rather Swansea, is our competitor, and gets more of the ore than we do, in spite of the fact that copper is generally 3 cents per pound higher here than in England. * * * We have to spend time, money, and patience in roasting or calcining, they mix their ores so as to avoid this most expensive part of copper making. I wish I could append to this letter a short table showing the size of the copper-smelting business of England, almost entirely carried on in foreign ores. The business is colossal; while we here, having ore enough to supply the world, do not export any smelted copper at all.

W. E. C. E.

The foregoing is submitted in part on account of the details given pertaining to the then status of the Boston, New York, and Baltimore smelter establishments; likewise it gives the viewpoint of the domestic

smelter man who is interested in smelting copper ores irrespective of domestic or foreign origin.

However, the major reason for submitting the foregoing is that it is the opening wedge on the part of the Eustis, Thompson, Ritchie, Burke, Canadian Copper-Nickel crowd, et al., who in 1888 began their final, energetic, successful campaign to place domestic copper on the free list.

The initials W. E. C. E. aforegoing, beyond question, stand for William E. C. Eustis, of the Orford Copper & Smelting Co., who with Robert M. Thompson and others, organized said company in Canada in 1878. Amongst other enterprises, the Orford Co. owned a refinery in Constable Hook, N. J., which was the nucelus of the present International Nickel plant at that point.

Report of the 1882 Tariff Commission

The Tariff Commission appointed under act of Congress approved May 15, 1882, held their first session on July 6, 1882, and their last session on October 16, 1882. They submitted their report on December 4, 1882.

Many recommendations were made by the commission, but the only one referring to copper appears on page 20, and reads as follows:

> The commission recommends the reduction of the rates upon many miscellaneous manufactures of metal, and a reduction of the rates upon copper, lead, zinc, and other metals of from 15 to 25 per cent.

On page 58 we find outlined the copper paragraph, under Schedule C, showing a reduction of existing rates and substantially similar to the one incorporated in the March 3, 1883, tariff act.

On page 54 we note the commission recommended a duty of 50 cents on iron ore. However, the March 3, 1883, act carries a duty of 75 cents a ton.

On page 59, we note that the commission recommended a duty of 1 cent per pound on lead in lead ore. However, the March 3, 1883, act accorded lead in ores a duty of 1½ cents.

On page 59, we note that the commission recommended that zinc in pigs be accorded a duty of 1¼ cents a pound. However, the act of March 3, 1883, gave zinc in pigs a duty of 1½ cents.

An analysis of the foregoing brings out the fact that the recommendation of the commission to lower the existing duties on copper, lead, zinc, and iron, was only followed in the case of copper, while the existing duties on lead and zinc were not disturbed at all, and as for iron ore, the duty recommended by the commission was actually increased 50 per cent.

The reason for this discrimination in favor of iron, lead, and zinc was undoubtedly due to the miners of the ores thereof actually appearing before the commission, energetically demanding existing protection and likewise following through to see that Congress heard their plea.

On the other hand, not a single representative of the copper miners within the then 16 domestic copper-producing States appeared before the commission or Congress. The only defender the copper miner had was Mr. Wharton, who, appearing before the commission in connection with nickel, casually discussed the copper item.

Under such circumstances of neglect or indifference on the part of the domestic copper miner to guard his protective equities, one can well understand that the vociferous specious pleas put forth before the commission for a reduction of copper duties by the professional free trader, copper manufacturer, foreign ore smelterman, and copper importer were heeded by the commission and likewise by Congress.

Copper Statistics, 1883–1890

Michigan produced 82 per cent of the total domestic copper production for the tariff period 1869–1883, and only 42 per cent of the total production for the tariff period 1884–1890. Montana produced 40 per cent and Arizona 13 per cent of the total production for 1884–1890. Michigan, Montana, and Arizona mined 95 per cent of the total domestic copper production for said period.

From Table 1 we find that the total domestic copper production for 1883 equals about 115,000,000 pounds; for 1890 it equals about 260,000,000 pounds. The large new increment added to our domestic production during the period 1884–1890 was due directly to the copper mined within Montana and Arizona.

It was also ascertained that the very large increase in domestic copper production from Montana and Arizona aforementioned resulted in a very marked increase in our domestic copper exports. For the period 1884–1890 we exported on an average $7,300,000 annually of copper products; about $4,150,000 thereof was in the form of matte and ore; about $3,150,000 in the form of ingots, bars, sheets, and manufactures.

During 1883 we note that about $2,340,000 worth of copper products were exported; about $940,000 thereof was in the form of matte and ore; about $1,400,000 in the form of ingots, bars, sheets, and manufactures.

Analyzing the foregoing exports, we find that the average annual value of matte and ore exported from 1884–1890 was four and one-half times greater than the annual value exported during 1883, and sixty-four times greater than the average annual export value for 1880–1882. This emphasizes the tremendous increase in matte and black copper exports beginning with 1884; these two classes came exclusively, or nearly so, from Montana and Arizona. The matte was largely exported due to the lack of refining facilities within the United States as of that period.

The copper tariff act of 1869, slightly modified in 1883, was most beneficially protective to the domestic copper miner during his attempt to develop our latent copper resources from 1869 to 1890. It is true that lowered transportation cost through adequate rail facilities aided in the economic development of this large new increment of increased copper production. However, without sufficient tariff protection from 1869 to 1890, it appears certain that most of our western copper areas would have remained undeveloped for an indefinite period.

From the record it appears incontrovertible that under free trade copper conditions from 1869 to 1890, the copper importer and smelterman of New York, Baltimore, and Boston could have easily supplied our total domestic copper requirements from the pauper, peon, and convict labor ore areas of foreign lands.

These 62-years-ago copper importing agencies—efficiently equipped as they then were—could certainly have done so, just as easily proportionately as their "free-trade" prototypes of to-day are doing through their unlimited importation of peon and slave labor copper.

Adequate protection during 1869–1890 resulted in the development of vast copper ore reserves within our country. Due to the excessive and unrestrained production of copper at low cost from these new domestic ore reserves, we note a sharp decline in copper prices beginning with 1884.

It is quite evident that this increased copper production from the new high-grade, low-cost ore areas of Montana and Arizona operated competitively to reduce the price of copper, within the domestic market, during the period 1884–1890.

This domestic competition was fair, and the domestic consumer received the benefit of very low prices during this excessive production, over and above domestic requirements.

Dividend data per pound of copper was only available for Michigan, and this averaged 2.8 cents per pound of copper mined within the State during the period 1884–1890. This dividend rate for Michigan averaged just about one-half the rate for the period 1869–1883.

This new domestic copper competition from Montana and Arizona was undoubtedly the main factor that reduced the dividend rate of Michigan one-half during the period 1884–1890.

Michigan, after 1883, could not alone bring about a curtailment of domestic production to equal consumptive demand within the domestic market. Michigan had been able to control this relationship from 1869 to 1884, and in doing so was able to earn a reasonable dividend on the total sum involved.

It was essential that all the domestic copper producers should curtail their domestic production to meet domestic requirements, provided they were desirous of securing an adequate domestic commodity price for their copper.

By failing to coordinate their production with consumptive demand, they were compelled to accept a much lower price for their copper within the protected market.

Copper producers can easily adjust the foregoing factors within the domestic market, provided there is a rigid protective barrier. It is absurd to contend that the domestic copper miner can control the domestic copper market under free-trade conditions.

Within a protective barrier the domestic copper miner has merely to restrict his production to meet consumptive demand in order to secure a commodity price for his product.

If there is no protective barrier, the domestic miner must effect an alliance with any and all foreign copper producers, scattered throughout the world, in order to secure a commodity price within his home market and be allotted the right to provide its total copper requirements.

It is quite evident that such an international alliance is not only impossible of realization, but even though it were, it would be repugnant to our citizenship and national interests.

Foreign copper has no more right within our home market than foreign iron, lead, zinc and a thousand other products that are virtually excluded therefrom through the operative effect of our tariff laws.

Chapter VI

1890–1894

We find in the tariff act of October 1, 1890, under "Miscellaneous Metals and Manufactures Of," a subdivision of Schedule C, certain paragraphs pertaining to copper, which are as follows:

191. Copper imported in the form of ores, one half of 1 cent per pound on each pound of fine copper contained therein.

192. Old copper, fit only for remanufacture, clippings from new copper, and all composition metal of which copper is a component material of chief value, not specially provided for in this act, 1 cent per pound.

193. Regulus of copper and black or coarse copper, and copper cement, 1 cent per pound on each pound of fine copper contained therein.

194. Copper in plates, bars, ingots, Chili, or other pigs, and in other forms, not manufactured, not specially provided for in this act, 1¼ cents per pound.

195. Copper in rolled plates, called brazier's copper, sheets, rods, pipes, and copper bottoms, also sheathing or yellow metal of which copper is the component material of chief value and not composed wholly or in part of iron ungalvanized, 35 per cent ad valorem.

215. Manufactures, articles, or wares, not specially enumerated or provided for in this act, composed wholly or in part of * * * copper, * * * and whether partly or wholly manufactured, 45 per cent ad valorem.

Comparing the copper rates skeletonized in Table 2, we note that the copper rates in the foregoing paragraphs of the October 1, 1890, tariff act, commonly called the McKinley bill, show a most drastic revision downward, when compared with the copper rates in the act of March, 1883.

We find the McKinley bill reduced the duty on copper in ores 80 per cent below the 1883 rate; the duty on copper in regulus and old copper was reduced 71 per cent, and there was a reduction in duty on copper in ingots of 69 per cent. The foregoing subdivisions are the ones of vital economic interest to the domestic copper miner.

On the other hand, we note that the duty on the manufactured copper article, sheets, etc., was not reduced at all in the McKinley bill when compared with the rate in the act of 1883.

We further find that copper manufactures not specially provided for was actually raised 29 per cent, from a total of 35 per cent in the 1883 act to 45 per cent in the McKinley bill.

The percentage span difference of 109 per cent between the tariff treatment accorded the domestic copper miner's ore product and the copper manufacturer's product is so glaringly great and unusual that it immediately suggests a careful scrutiny of all the tariff factors involved.

The McKinley bill during its economic period span had an average ad valorem duty rate equaling about 49 per cent. Its metal schedule rate averaged about 58 per cent.

The McKinley bill, both as regards its total and metal schedule average dutiable rates, created an all high tariff rate record from the beginning of our Government down to this time.

It seems strange indeed that the agencies responsible for the passage of the McKinley bill, with its notoriously high general and metal duty rates, would have had the legislative callousness to reduce the duty on the domestic copper miner's ore product 80 per cent.

The duties on lead ore and iron ore were carried without reduction into the McKinley bill when comparing these items with those in the act of 1883.

Zinc in pigs was actually increased in the McKinley bill when comparing this duty item with the rate in the 1883 act.

It is beyond comprehension why all these other metals were most zealously protected and the domestic copper miner's product was virtually thrown into the morass of free tradeism.

It was stated when the McKinley bill was reported to the House, on April 16, 1890, that the information used for tariff revision purposes in connection with said bill was that set out in the tariff testimony taken before the Senate Finance Committee, Fiftieth Congress, 1888–89; also the data assembled during the hearing before the Ways and Means Committee, Fifty-first Congress, first session, 1889–90. Consequently, the information presented before the Senate and House committees aforementioned will be carefully reviewed in order to ascertain the reason for the drastic revision downward of the copper ore and ingot rates.

Copper Tariff Details, 1884 to December, 1889

Attention was directed, under tariff period 1883–1890, to the testimony of E. T. Cox on October 7, 1882. Mr. Cox was seemingly associated with Mr. W. E. C. Eustis and the Orford Nickel & Copper Co. of Constable Hook, N. J. This company, or its associates as of 1882, was endeavoring to have the duty on copper in ores removed or lowered to an unprotective rate. Their smelting and refining activities were directly dependent on the importation of foreign ores. In consequence, they naturally did all in their power to have copper in ores and mattes placed on the free list.

On January 22, 1884, Senator Justin S. Morrill, of Vermont, presented a petition of the Orford Copper & Sulphur Co., of Bayonne, N. J., praying for such amendment of the existing laws as would enable them to import copper ores from Canada and other foreign countries.

We find that on January 5, 1886, Congressman Maybury, of Detroit, Mich., introduced a bill asking for the free listing of copper in ores.

The Mills bill passed by the House of Representatives on July 21, 1888, placed copper in ores, regulus, and old copper on the free list and reduced the copper ingot duty 50 per cent. The foregoing copper products are the ones of major importance to the domestic copper miner. The Mills bill only reduced the manufactured copper article a gross 5 per cent, from 35 to 30 per cent ad valorem; on the manufactured article not specially provided for, the gross duty of 45 per cent was reduced to 35 per cent.

Congressman Breckinridge, of Arkansas, introduced a bill on August 27, 1888, asking for the repeal of the copper duties.

On September 13, 1888, Senator Orville H. Platt, of Meriden, Conn., introduced a resolution entitled "The Copper Trust," which reads as follows:

> *Resolved*, That the Committee on Finance be, and is hereby, instructed to inquire whether a foreign syndicate combination or trust controls the production of copper in the United States and has thereby largely increased the price of all articles made therefrom to the consumers; and if so, whether any legislation can be devised to relieve the people of the United States from such injurious effects of the operation of such foreign combination, trust, or syndicate and report by bill or otherwise.

The copper manufacturer of New England, whether in 1888 or 1868 or 1846, was always alert as to reducing the cost of his raw material; never ceased in his efforts to place copper in ores or ingots on the free list. The foregoing resolution on its face, was directed against the activities of the French Copper Syndicate, that began their operations in the United States in December, 1887, and ended with its financial collapse as of March, 1889. The syndicate tin corner collapsed in April, 1888, and from that time on it was increasingly evident that its end was near. The real motive for Senator Platt's resolution was undoubtedly to further intensify congressional feeling against the copper duties, hoping thereby to secure their repeal, so that the highly protected domestic copper and brass manufacturers could increase their profits.

Mr. S. J. Ritchie, representing the Canadian Copper Co., the initiator of the International Nickel Co. enterprise, on September 20, 1888, appeared before the Senate Finance Committee requesting that copper in matte be placed on the free list, along with nickel in matte and ores. Mr. Ritchie stated that Calumet & Hecla did not need protection on copper; that they were exporting nearly all their output. Mr. Ritchie did not advise the committee that said company had sold its output to the French Copper Syndicate and said syndicate was responsible for the output exportation. He further failed to explain that this exported copper was being stored in Europe—not consumed to any extent. Mr. Ritchie should have stated that for 1887, the last year for which total export statistics were then available, we exported only about 16 per cent of our annual copper value production and not one-half thereof as he stated. He should have mentioned that 75 per cent of the copper value exported in 1887 was as matte, nearly all coming from Montana and Arizona, not a pound of which came from Michigan. All told, there was only about 12,000,000 pounds of copper exported in form of pigs, bars, sheets, and old, during 1887. Even though all this domestic export poundage had come from the Calumet & Hecla mine, it would only represent about 25 per cent of its 1887 output. Mr. Ritchie is answered somewhat in detail, for his testimony parallels that of Robert M. Thompson and Stephenson Burke. These latter two, with Mr. Ritchie, are, in the writer's opinion, primarily responsible for the practical destruction of copper protection as of 1890 and its total destruction as of 1894.

On September 25, 1888, the Senate Finance Subcommittee reported to the whole committee a substitute bill for the Mills bill. Said Senate substitute bill was reported to the Senate on October 4, 1888. The report accompanying said substitute bill referred disparagingly to the inconsistences of the Mills bill through placing copper ore on the free list yet extending protection to nickel and zinc ores. The ironic phase of this criticism is that based on this same report, these same critics, a few months later, in the McKinley bill, practically free listed copper ore and increased the duty on zinc. This report further states that all known domestic crude materials have already been free listed, that there are none—with few unimportant exceptions—to be added to the free list with their legislative aid. All of the foregoing was stated a month before the 1888 election, evidently to allay any apprehension the copper miner might have, within the

16 copper-producing States, that his copper-ore duty would be practically destroyed and the ingot duty virtually emasculated.

Mr. S. J. Ritchie again appeared before the committee on December 10, 11, and 13, 1888, and again asked that copper in ores, matte, and ingots be free listed. He also called attention to the iniquitous French Copper Syndicate; that Congress should permit Canadian copper in ores, matte, and ingot to come in free, so that Mr. Ritchie and his Canadian copper crowd could fight this vicious international syndicate. Mr. Ritchie did not explain to the committee how free-trade copper from Canada and other foreign countries could kill off the French octopus within our domestic market without destroying the domestic copper miner as well.

On December 19, 1888, we find that Mr. Robert M. Thompson, president of Orford Copper Co., New York, requested the committee that copper in pyrites under 6 per cent be admitted free; also that copper in ores and mattes carrying silver or nickel, free when the silver or nickel contents are of greater commercial value than the copper contents. The last request meant that Mr. Thompson wanted all the Canadian Copper Co.'s copper matte to come in free, for it invariably carried greater values in nickel and silver than copper. The Orford Copper Co. had already smelted a great many thousand tons of Canadian Copper Co. ore. They were very familiar with the copper-nickel value ratio as of December, 1888.

There appeared before the committee on January 16, 1889, Mr. Stephenson Burke, president of Canadian Copper Co., requesting that copper in ores and matte be placed on the free list. If this was done and the domestic duty on nickel in ores and matte was removed, then his company would build a refinery within the United States to refine their Canadian copper-nickel matte. Mr. Burke's testimony regarding Calumet & Hecla, the French Syndicate, and so forth, parallels and is similar to the Messrs. Ritchie and Thompson statements aforediscussed.

Mr. John Stanton, of New York, treasurer of the Atlantic Mining Co., situated in the Lake Superior copper district, Michigan, petitioned the committee on January 8, 1889, to retain the copper duties in order "to compensate in a measure for the present taxation imposed on the industry by duties levied upon materials consumed in the production of copper in this country, particularly iron, steel, and lumber, and the high wages paid to American workmen. Second, to prevent foreign speculators from using the accumulated stocks of copper held in other countries as a menace to strangle American industries and bring them into their control." Mr. Stanton was one of the most highly respected and competent men ever connected with our domestic copper-mining industry. His statement of 42 years ago was true then, and it is true to-day. Mr. Stanton's letter or petition was the only plea made by a copper miner or anyone else, before the committee, for a retention of the existing copper duties.

The failure to appear before the committee shows the greatest carelessness and neglect on the part of the domestic copper miner in not guarding continuously the exceedingly valuable protective equities accorded him in 1869. He should have appeared in force before the committee, ready to challenge and expose and thereby destroy the sophistries and sleek utterances of the type made by self-serving miners of foreign copper ores.

Copper Tariff Details, December, 1889–90

The Ways and Means Committee of the House began taking testimony in connection with the revision of the tariff in December, 1889, and ceased taking testimony in February, 1890. The Senate Finance Committee did not take any testimony during this period; they relied on the data assembled by their committee from June, 1888, to January, 1889, also the testimony taken by the Ways and Means Committee aforementioned.

The testimony discussed subsequently in this section will be found in the "Hearings before the Committee on Ways and Means," Fifty-first Congress, first session, 1889–90.

In the latter part of January, 1890, Mr. S. J. Ritchie, representing the Canadian Copper Co., appeared before the Ways and Means Committee and requested that copper and nickel in ores and matte be placed on the free list. If this was done, his company would agree to build a refinery in the United States and transport thereto for refining purposes their Canadian copper-nickel matte. Mr. Ritchie also stated that Americans from Ohio owned the total stock of the Canadian Copper Co., and asked that they be accorded the same liberal treatment in this country that they had received in Canada. He also stated that our Government, which in the future would need nickel for naval purposes, should offer special inducements—namely, free list copper and nickel in ores and matte—to the Canadian Copper Co. to build a refinery within the United States.

Mr. Ritchie appeared several times before the Senate Finance Committee from September to December, 1888. During that period he dilated on the great profits made and the large amount of copper exported by our domestic copper companies. He likewise criticized the vicious economic practices of the iniquitous foreign French Copper Syndicate. Mr. Ritchie did not inform this committee at the January, 1890, hearing that the French Syndicate had collapsed in March, 1889, and that copper had dropped to 11 cents immediately thereafter; also that the domestic copper companies were faring badly during the fall of 1889 due to the low price of copper which was the resultant effect of the huge copper surplus held domestically and abroad.

Mr. Robert M. Thompson, president of the Orford Copper Co., Constable Hook, N. J., appeared before the committee during the first part of February, 1890. Mr. Thompson asked the committee to consider his request for the importation, free of duty, for smelting and refining purposes, of copper in ores, matte, regulus, cements, and bars, with the proviso that an equivalent amount of unmanufactured copper must be exported within six months equal to that in said ores, mattes, and bars. Mr. Thompson stated he wanted to import smelting ores from Australia, Canada, and Venezuela to enable his smelter to treat ore from the smaller American mines at low cost to enable them to live in competition with the great mines of Montana and Michigan. He also stated that we exported 40 per cent of our domestic production and that the foreign consumer paid more for his copper than the domestic consumer. Mr. Thompson admitted that his smelting company had signed a contract with the French Copper Syndicate just before it went to pieces (March, 1889). Mr. Thompson further stated that his smelting and refining company would

have to increase its rate to the smaller mines, unless the foreign ores were made available, for the reason that the Montana copper companies were building their own plants to treat ores and matte that had theretofore been treated at Constable Hook.

Replying to Mr. Thompson's statement that the foreign copper consumer was paying more for his copper than the domestic consumer in 1889 or the first part of 1890, does not conform with the accepted market quotations of domestic and foreign copper prices for that period. Mr. Thompson's obvious motive in stating the foregoing was undoubtedly to convey that if foreign copper was higher and we exported 40 per cent of our copper, it was useless to retain the existing copper duties.

The only year, from 1880 to 1891, that shows foreign copper selling higher than domestic copper was during 1888, the only complete year that the French Copper Syndicate operated. During all the years prior and subsequent to 1888, foreign copper sold all the way from one and two-tenth cents to 8 cents per pound lower than the domestic product.

During 1889 we find that more than 80 per cent of our export copper was in the form of matte and was being shipped abroad for the account of the defunct French syndicate, and said matte or its refined equivalent was stored in English or French warehouses.

Answering Mr. Thompson's expressed solicitude to smelt the smaller domestic mine ore cheaply, reference is made to the metallurgical history of the United States as of 1889. We find that Calumet & Hecla Mining Co. was building a refinery; Boston & Montana were building a large smelter at Great Falls, Mont.; the Kansas City Smelting & Refining Co.; Omaha & Grant Smelting & Refining Col. Pueblo Smelting & Refining Co.; the St. Helens Smelting Co.—all the foregoing western companies were building or just completing copper refineries as of 1889. Mr. Thompson was undoubtedly aware of the forego ng; in consequence he realized that his eastern smelting and refining plant, 2,500 miles distant from the Montana and Arizona copper-ore areas, was through unless he could break down the copper-duty barrier. With the ocpper duty on ores and mattes destroyed or emasculated, he could bring by vessel to his tidewater plant, at minimum haul cost, any of the high grade, cheaper-cost copper ores of the world. He could also continue to treat the Canadian Copper Co. matte, and thenceforth his crowd could through retention of the ingot duties boldly pour into our domestic channels an uninterrupted flow of foreign copper.

Mr. George M. Phelps, representing the National Electric Light Association, which was composed of electric-lighting companies and manufacturers of and dealers in electric-lighting apparatus and supplies, appeared before the committee about February 10, 1890. Mr. Phelps presented a petition asking for the abolition of duty on copper ingot, plate, bars, rod, and wire. He stated that the resolution approving the foregoing petition was adopted August 7, 1889. The petition states the duty on copper appears superfluous; that we export large quantities of copper; that we possess the richest mines, and can mine copper cheaper than anyone else in the world.

Offsetting the foregoing generalities, we find that from May to August, 1889, when said petition was adopted, domestic lake copper was selling at 12 cents per pound. It would be interesting indeed

to compare this very low domestic price for copper with the profit the petitioning utilities and copper manufacturers were then enjoying.

The foregoing statements embrace practically all the information pertaining to copper duties and the domestic copper mining industry, presented before the Ways and Means Committee during said hearings. It is quite evident that every statement made before the two committees, excepting that by Mr. John Stanton, was by representatives of foreign copper producers, domestic tidewater smelting agencies dependent on securing duty-free copper ores, and, finally, a utility aggregate seeking domestic copper at peon-labor prices. It was seemingly from the foregoing nebulous fund of information that the two committees formulated their report of the copper item, within the metal schedule.

William McKinley, chairman of the Ways and Means Committee, on April 16, 1890, submitted to the House (H. R. 916) a bill to reduce the revenue and equalize duties on imports and for other purposes. Said measure is the one commonly referred to as the McKinley bill. On page 12 of the report accompanying said bill we find the following:

> In the metal schedule no change of duty has been recommended upon iron or iron in pigs. These duties, it is believed, can not be lowered without detriment to existing industries, and we have not felt justified in interferring with the further development of our iron ore resources. * * * With regard to pig iron, it may be said that it is in no sense a raw material. It is a product of the highest skill, requiring in its manufacture large and expensive plants. * * * Pig iron is made in 25 States of the Union. Its manufacture is increasing rapidly in many States, largely as the result of the protective duty which has long given encouragement to its production.

Mr. McKinley's statement shows commendable interest in the economic welfare of the iron-ore miner within some 25 States as of 1889. The report emphasizes that the iron-ore duty can not be lowered without detriment to existing iron-ore industries nor should the continued development of this resource be interfered with.

Michigan mined during 1889 more than 40 per cent of the domestic production of iron ore. This State was nearly as vitally interested in the iron-ore duties as all the other 24 iron-ore producing States combined.

The McKinley bill practically placed copper ore on the free list. During 1889 we find that out of 16 copper-producing States, Michigan mined about 40 per cent of the total domestic copper production, or nearly as much copper as the other 15 States.

The value of the iron ore produced by the Michigan iron miner for 1889 equals about $9,500,000.

The value of the copper produced by the Michigan copper miner for 1889 equals about $12,000,000.

The query naturally arises why the solicitude of only protecting the miner that produces the lesser value of two invaluable domestic ores and placing the miner of the greater value, namely, copper, practically on the free list?

If the McKinley bill aided the Michigan iron miner in 1890 by continuing his protection, it seems a fair deduction that this bill endangered the Michigan copper miner by practically putting his product on the free list.

Comparing the relative opinions of 1889 as to the resource status of iron and copper, it may be stated that United States Geological Survey Mineral Resources for that year clearly indicates a great

expansion of our iron-ore resources, but specifically states that with the exception of isolated cases there is nothing to warrant the belief that new important sources of copper ore would be developed within the United States.

The McKinley bill seemingly accorded continued protection to iron at a time when its domestic ore resources were known to be expanding and simultaneously placed copper on the free list when its ore areas were delimited.

The future consumption of large quantities of copper for electrical purposes as of 1890 was clearly indicated, consequently every protective aid should have been maintained and even extended as of that time, in order to increase the domestic copper resources.

It is interesting to note on page 16 of the report submitting the McKinley bill, the following:

> They are pleased to ignore the fact that one of the purposes of a protective tariff is to hinder a still larger importation of foreign produce and thus save the market from still greater depression.

Even though there were a domestic overproduction of copper, nevertheless, according to the foregoing doctrine of McKinleyism, protection should have been continued for copper as it was for many domestic industries that had surpluses available for export. The maintenance of effective duty barriers would keep out the peon and pauper produced copper of foreign lands; would have enabled all the domestic copper miners to compete for the trade of our domestic market on an equivalent economic basis.

When the Mills bill, which placed copper in ores and matte on the free list, was under consideration in 1888, we find within reports submitted by William McKinley, minority leader of the Ways and Means Committee, the following:

> If the laboring men could have been heard by the committee, they would have told a story of misery during the free-trade era which might have deterred the majority even from inaugurating the policy now proposed.

It seems certain that if William McKinley had heard the tale of misery unfolded by the domestic copper miner as to their sufferings during the free-trade copper era prior to 1869, he and his committee majority might have been deterred in 1890 from inaugurating the destructive copper ore and ingot duty policy embodied in the McKinley bill.

We note that William McKinley in 1888 likewise stated the following:

> The foreign market to which the Amercian producer is invited by the majority report is delusory. Our own market is the best. There is no market anywhere comparable with it. Let us first of all possess it; it is ours and we should enjoy it.

It appears that the foregoing was merely a political platitude because the author thereof in sponsoring the McKinley bill practically destroyed the duties on copper in ore and ingot; actually forced the domestic copper miner to share his home market with any foreigner that desired entrance thereto; denied the American copper miner the right to possess that which he was entitled to possess.

The passage of the McKinley bill, October 1, 1890, practically forced the copper miner to again enter the arena of foreign copper competition. This bill ruthlessly took away from the copper miner the protective equities that were accorded him after the historic tariff

struggle of 1869. This act virtually removed the mantle of protection that had wrought an economic miracle in the short space of two decades; destroyed a protective policy that had expanded the annual copper production ten times and cut the price in two.

Fixing Responsibility for Copper Tariff Loss

The question arises as to the copper tariff attitude of the domestic copper producer during 1888, 1889, and 1890, when the various congressional committees were assembling tariff data, and up to October 1, 1890, the date when the McKinley bill was passed.

It is evident that individuals in control of the domestic copper mining industry, which had produced an average copper value of about $36,000,000 for the years 1888, 1889, and 1890, would not be indifferent as to any or all details effecting their equities.

It certainly is strange, when scanning thousands of pages of testimony taken during these three years, to only encounter the single statement of Mr. John Stanton, a noted copper producer of the Lake Superior district, petitioning for the retention of the copper duties.

One would expect to find these pages teeming with defense details of the copper duty equities comparable with the defense offered and maintained throughout these hearings by the domestic iron ore, lead, and zinc miners in defense of their duty items. Such a defense on the part of the domestic copper miner would have quickly shattered the specious, self-serving pleas of the Canadian Copper Co. crowd, who persistently plead for destruction of the copper ore and matte duties.

It appears after scrutinizing various factors involved that the controllers of the domestic copper mining industry were indifferent as to the continuance of the copper ore and matte duties, due to certain agreements entered into with the French Copper Syndicate beginning with December, 1887. Certain of these agreements were for three years, and so far as Anaconda and certain Lake Superior and Arizona copper producers, controlling about 85 per cent of the domestic production, were concerned, their particular contracts were specially guaranteed, the guarantors being strong and independent banking factors who stood ready to fulfill these contracts, even though the syndicate failed, which it did in March, 1889. It is believed that copper continued to be delivered under said contracts until the end of 1890.

In addition to the foregoing, it appears that several of the leading domestic copper-producing companies, or their controlling stockholders, had become interested in the domestic copper and brass rolling mills, manufacturing and fabricating plants; consequently these controlling agencies were vitally interested in the duties on the manufactured product, and were indifferent as to the duties affecting copper in ores and matte and ingot. The foregoing seems to be the plausible explanation as to why the McKinley bill raised the duty on the manufactured article 29 per cent and lowered the copper miner's ore duty 80 per cent, a duty span of 109 per cent.

It appears that as of 1890 the domestic copper manufacturer was again in control of the tariff policies of the industry. The manufacturer of the eastern tidewater section was again able, after an interval

of 20 years, to maintain inordinate duties on the manufactured article and place the domestic copper miner's ingot practically on the free list.

Copper Statistics, 1890–1894

Discussing the 4-year period, 1891–1894, we find that Michigan produced 35 per cent of the total copper production; that Montana produced 46 per cent, and Arizona 13 per cent thereof. These three States mined 94 per cent of the total domestic copper production for the period. This period definitely witnesseth the passing of Michigan as the leading domestic copper-producing State, an honor she had held since 1850.

Chapter VII

1894–1897

The tariff act of August 27, 1894, commonly referred to as the Wilson-Gorman bill, has under Schedule C, and the free list, the following paragraphs pertaining to copper:

Par. 161. Copper in rolled plates, called braziers' copper, sheets, rods, pipes, and copper bottoms, also sheathing or yellow metal of which copper is the component material of chief value, and not composed wholly or in part of iron ungalvanized, twenty per centum ad valorem.

Par. 177. Manufactured articles or wares, not specially provided for in this act, composed wholly or in part of any metal, and whether partly or wholly manufactured, thirty-five per centum ad valorem.

FREE LIST

Par. 451. Copper imported in the form of ores.

Par. 452. Old copper, fit only for manufacture, clipping from new copper, and all composition metal of which copper is a component material of chief value not specially provided for in this act.

Par. 453. Copper, regulus, and black or coarse copper, and copper cement.

Par. 454. Copper in plates, bars, ingots, or pigs, and other forms, not manufactured, not specially provided for in this act.

From the foregoing it will be seen that the Wilson-Gorman bill placed copper in ores, regulus, old and ingots, on the free list. It will also be noted that copper in sheets was accorded 20 per cent, and manufactures not specially provided for were placed at 35 per cent.

The foregoing bill had at least the economic equality decency of reducing the sheet and manufactured rates of the McKinley bill from 35 and 45 per cent, respectively, to 20 and 35 per cent.

This was the only fair thing to do, inasmuch as the manufacturer's raw material, the copper ingot, was placed on the free list.

The Wilson-Gorman bill, so far as the copper items are concerned, parallels fairly close the rates fixed by the Mills bill of 1888, the exceptions being that in the Mills bill copper in rolled plates carried a rate of 30 per cent instead of 20 per cent; clippings from new copper, 1 cent per pound; composition metal, 2 cents per pound; copper in ingots, 2 cents per pound. From the foregoing it will be seen that the Mills bill was slightly protective to the copper miner, but the Wilson-Gorman bill removed all protection.

We have to go back prior to 1846 to find a tariff act that placed all the copper miner's product on the free list, such as the Wilson-Gorman bill did in 1894.

The copper miner anticipated the treatment he received in 1894, for the reason that the political factors in charge of the Wilson-Gorman bill were nearly identical with those that formulated the Mills bill. The sponsors of the Mills bill in 1888 were known as definitely committed to the policy of placing all so-called raw or crude materials on the free list.

On the other hand, the Allison-McKinley bloc in 1888 were high protectionists, practically in favor of according protection to any and all articles that could be grown, manufactured or mined within the United States. The copper miner in 1890 expected special protective consideration for any and all the items pertaining to his welfare. However, it was this crowd of high protectionists that practically destroyed the copper miner's protective equities in 1890. All the Wilson-Gorman Act did was to remove these useless protective copper rates within the McKinley bill.

The tariff hearings held before the Ways and Means Committee of the House, first session, Fifty-third Congress, during the fall of 1893, contains no data pertaining to the domestic copper mining industry or tariff details relating thereto.

Chapter VIII

1897–1930

The copper miner's product—namely, copper in ores, regulus, old and ingots, as will be seen in Table 2—has been kept continuously on the free list from the Wilson-Gorman bill of 1894 down to the Smoot-Hawley Act of 1930. In consequence, nothing can be gained, from a copper miner's viewpoint, by discussing in detail the five tariff acts passed since 1894. Each of these five tariff acts monotonously places the copper miner's product on the free list, and with the exception of the Underwood bill accorded most rigid and high protection for the manufactured copper article.

Since the passage of the McKinley bill, October 1, 1890, the value of domestic unprotected copper produced exceeds the combined value of all the highly protected metals—namely, lead, zinc, and aluminum—produced, from 1890 to date.

However, we particularly note the careful and continuous protection accorded lead in ores, from the McKinley bill to the Smoot-Hawley Act. The McKinley Act carried the lead protective rate of 1864, and this rate has been maintained continuously from 1890 to date, except when reduced 50 per cent during the Wilson-Gorman and Underwood tariff periods. Whenever lead in ores has been cut by the low-duty men, the protectionists immediately restored the 1864 rate when they against controlled Congress. The maintenance of this continuous protection for the lead miner's ore product the past 66 years has brought him a fair commodity price for same. Desperate attacks, from 1890 to date have been made by the domestic lead smelting, refining, and manufacturing interests to destroy this 66-year-old protective barrier, but the lead miner, constantly alert, has fought back continuously and ably to maintain the same.

The lead miner through this continuous protection did not have to and would not countenance the encroachments of the manufacturer; the lead miner emphatically insisted on receiving a fair share of the amount paid by the domestic consumer.

It is tragic indeed that the domestic copper miner failed to exercise the same degree of protective determination shown by the lead miner from 1894 to date. The unprotected copper miner has had to accept within his home market whatever price was fixed for copper within the free-trade markets of the world. It is undeniable that if the domestic copper manufacturer during this long period would have been compelled to buy his raw material, the copper ingot, within a protected domestic market, the copper miner would have received a fair commodity price for his product; would have received a part of the increased profit increment that the highly protected manufacturer has exacted and absorbed all these years, and likewise would have insisted on the manufacturer paying a price beyond that received for the copper ingot.

The domestic copper manufacturer during all the free trade copper years, from 1894 to date, has brought in whatever cheap foreign copper he desired, but, on the other hand, has rigidly prevented importation of the foreign manufactured article.

The copper miner has had to accept the world free-trade price for his product within a highly protected domestic market when the copper manufacturer received a commodity price for his product.

Such protective discrimination is basically unfair. It is certainly un-American, as evidenced by the past copper tariff history or our country. Through publicizing these discriminatory factors, it appears certain that Congress will again accord economic justice to the copper miner.

Chapter IX

COPPER TARIFF STATEMENT

The plea necessity of the domestic copper miner for adequate protection for the product he produces is strange, indeed, when consideration is given to the fact that there is not a single product of economic importance that can be grown, manufactured, or mined within this country that is not now protected.

Within the many thousands of protected items stated in the Smoot-Hawley bill of June 17, 1930, we fail to find mention made of the copper ingot.

Within the thousand protected items listed in the metal schedule of said bill, we find that the copper ingot has been eliminated.

We do, however, find the copper ingot within the free list, midway 'twixt acids and zaffer, neighbored by oriental coir and coral from the southern seas.

The only nonferrous metals and ores within the free list are those of antimony, chromium, cobalt, nickel, and tin, all of which are mined products of foreign lands. Not a dollar's worth of these ores is mined within the United States. They are fittingly placed in the tariff category of exclusively produced foreign products, like rubber, coffee, and tea.

The only other metallic ore of any economic importance whatsoever, outside of the five mentioned aforegoing and copper ore to be found within the free list, is iron ore. We find that iron ore received continuous protection from 1874 to 1913, a period of 39 years. It is undoubtedly permitted to remain within the free list for the reason

that its average imports have not exceeded 3 per cent of the domestic tonnage production since 1913. If this import percentage should ever show any appreciable increase, it seems certain that the 19 domestic iron ore producing States would ask for a restoration of the duty.

Copper in ores, except iron ore, is the only domestically mined nonprecious ore item within the free list. We further find that copper metal is the only nonprecious domestically mined metal item within the free list schedule of the Smoot-Hawley Act.

The foregoing paragraph certainly emphasizes the strange, unusual, in fact, unique, position occupied by copper in ores and as a metal within the Smoot-Hawley Tariff Act. Copper is strangely isolated within the free list zone of universal and merciless competition; placed within the arena that brings crushing economic disaster whenever the domestic copper miner's product fails to meet any and all foreign slave-labor costs within his home market.

The continued chaining of the copper ingot within the foreign destructive tariff subdivision suggests immediately that an analysis be made of various factors benefiting from the policy of congressional economic ruthlessness directed solely and alone against a single domestically mined metallic element—namely, copper.

Chapter X

DOMESTIC COPPER PRODUCTION

Referring to Table 1, we find that from 1845 to 1930, inclusive, there was produced within the United States about 44,449,000,000 pounds of copper, having a total value of about $7,213,300,000, or 16.2 cents per pound.

We also find that 90 per cent of said total copper production from 1845–1930 has been mined since 1901; 75 per cent thereof after 1905; 50 per cent thereof after 1915, and 25 per cent from 1925–1930.

We further find that the copper produced during the 4-year war period, 1915–1918, equals 16 per cent of said total domestic production from 1845–1930; the production during the 12 years, 1919–1930, since the war, equals 39 per cent of said total domestic production; the production since the passage of the Fordney-McCumber Tariff Act, September 21, 1922, equals 30 per cent of the domestic copper mined from 1845–1930.

During the six decades, from 1841–1900, during which 60 years 10 per cent of the total domestic copper production, 1845–1930, was mined, we find these six decades, in sequence, produced the following percentages of the world's copper production, namely, 0.5, 5.5, 9.5, 14.7, 32.3, and 51.9 per cent. In other words, we note that during the decade 1891–1900, United States began to mine one-half of the world's copper production.

During the last three decades, from 1901–1930, during which time the United States has mined 90 per cent of its total copper production, we find that these three decades, in sequence, produced the following percentages of the world's copper production, namely, 56 per cent, 58 per cent, and 51 per cent. The high decade, 1911–1920, included the World War period.

We note that the domestic percentage rate of the world's copper production for the last decade, 1921–1930, is lower than for any decade percentage rate since 1881–1890.

The decline in the domestic percentage of the world's copper production from 1926 has been distressingly downward. The rate for 1926 is 53.4 per cent; for 1927 equals 50.6 per cent; for 1928 is 48.4 per cent; and for 1929 equals 47.7 per cent. The remainder of the world's copper production first passed the United States production in 1921. From 1922 to 1925 the rate averaged 53.7 per cent, or about equal the 1926 rate, just prior to the aforementioned decline

It is interesting to note that when the United States world production was increasing from 1846 to 1870, we also find that Chile's percentage of the world's copper production also increased during these three decades, as follows, respectively, 20 per cent, 32 per cent, and 44 per cent. In other words, for the decade 1861–1870, Chile produced 44 per cent of the world's copper production and the United States only 9.5 per cent thereof. The United States 1869 copper tariff act became effective at the end of the foregoing decade. From 1870 down to 1912 we find a constant decline in Chile's world percentage production rate. For the decade ending 1870 we note Chile produced 44 per cent of the world's copper production, whereas for 1912 it only equaled 4 per cent thereof. We note also that when Chile was at this low stage of her world production rate, Belgian Congo began to mine copper in ever-increasing quantities.

For the year 1926, when the decline of the United States world production rate began, we find that whereas United States produced 53.4 per cent of the world's copper, Chile and Belgian Congo for 1926 produced 19.2 per cent thereof; in 1927 they produced 21.6 per cent; in 1928 their production equaled 22.6 per cent; and in 1929 they produced 23 per cent of the world's copper production.

In other words, from 1912, when the combined production of Chile and Belgian Congo only equalled about 5 per cent of the world's copper productions, and the United States was then producing at the rate of about 57 per cent thereof, we find as of 1929 that Chile and Belgian Congo increased their combined copper production to 23 per cent of the world's production and the United States rate had declined to 47.7 per cent.

While the United States world copper production percentage rate for 1912, compared with the 1929 rate declined 16.3 per cent, we find that the combined Chile and Belgian Congo rate increased 360 per cent.

The foregoing percentage relationship indicates a rapid increase in the remainder of the world copper productions rate and a persistent decrease in the United States rate.

The analysis submitted aforegoing unmistakably shows that the remainder of the world's copper production rate is not alone increasing much more rapidly than the United States rate, but is doing so at the direct expense of the domestic rate. Said increase has been persistent and continuous since 1912 (covering 60 per cent of total domestic production) while the United States rate has held a persistent downward trend during said period. It is quite evident from the remarkable divergency increase of the domestic and foreign rate factors that this divergency of production rates is still operative and will continue until the United States is again able to mine copper in volume and at a cost to destroy foreign competition.

The United States could never have checked Chile's rapid world production percentage rate increase as of 1870 only through the development of the rich native copper deposits of the Lake Superior region. This new copper ore reserve—developed efficiently behind the copper tariff barrier of 1869—gave United States virtually immediate control of the world's copper market because our country could then deliver copper in volume to meet world demand and at minimum costs. Chile, being solely a copper exporting nation, could not meet this competition, and her domestic copper production practically ceased. Chile and Central Africa, on the other hand, developed about as of 1912, new and enormous bodies of very high grade copper ore, just as rich proportionately and in volume to indicate control of the world's copper market, as the Lake Superior deposits indicated world control as of 1870. Chile and Central Africa began marketing copper as of 1912 and shortly thereafter in volume and at a cost which destroyed our rigid control of the world copper market. The two foregoing foreign areas alone have now virtually expanded, or are expanding, their plant capacity facilities to care for all the copper requirements exterior to the United States and can very quickly still further expand their plant facilities to care for our domestic requirements.

The foregoing data emphasize that the domestic copper mining industry has, beyond question, lost economic control of the world copper production. This being true, the domestic copper miner should eliminate foreign copper competition within the domestic market; should forthwith secure rigid control of the greatest and most profitable copper consuming market in the world, namely, our domestic market. Our country consumes more copper than the remainder of the world. In securing control of the home copper consuming market behind an effective tariff barrier, the domestic copper miner will secure compensation proportional to that received by those dependent on all the present highly protected metal and other domestic industries.

The copper production of the United States has been sufficient in volume up to now to care for all our domestic requirements and provide an exportable surplus. Table 1 shows the annual copper production from 1845 to 1930, inclusive. The production data from this table and the domestic copper consumption factors obtained from governmental publications made possible the compilation of Table 3. This table consolidates the domestic copper production, consumption, and available export surplus for the period 1903–1930, inclusive; said 28-year period embraces 81.98 per cent of the total domestic copper production from 1845 to 1930.

TABLE 3.—*United States copper production, consumption, and export surplus for certain year periods 1903–1930*

Period	Production	Consumption	Export surplus	Export percentage
	Pounds	*Pounds*	*Pounds*	
1903–1914	12, 016, 972, 837	7, 636, 214, 891	4, 380, 757, 946	36. 47
1915–1918	7, 110, 514, 391	5, 671, 999, 349	1, 438, 515, 042	20. 23
1919–1930	17, 342, 287, 386	15, 177, 397, 114	2, 164, 890, 272	12. 48
1903–1930	36, 469, 774, 614	28, 485, 611, 354	7, 984, 163, 260	21. 89

From Table 3, we find that of all the domestic copper produced from 1903–1930, covering 82 per cent of our total domestic copper production, we have only had an average of 21.89 per cent thereof available for export. The domestic copper consumption data prior to 1903 is rather uncertain. However, the writer has used this data, as shown in governmental publications, and covering a period from 1892 to 1930, embracing 94 per cent of our total domestic production. The available copper export and domestic consumption percentage factors are practically identical in the two tables, only that this discarded table shows 23.95 per cent as of the total domestic copper available for export, compared with 21.89 per cent as set out in Table 3.

In order to carry distinctive time period comparisons, the foregoing stated 1903–1930 year span was divided into the 4-year war period 1915–1918, and a 12-year period subsequent to and a similar year period prior to the war period, a total of 28 years.

For the 12-year period, 1903–1914, prior to the war, we note that 36.47 per cent of the copper produced was available for export and only 63.53 per cent was consumed within the United States. This 12-year period embraces 60 per cent of all the copper produced during 1845–1914.

During the 4-year war period, 1915–1918, we find that 20.23 per cent of the copper produced was available for export and 79.77 per cent was consumed domestically. This 4-year period embraces 16 per cent of the total domestic production during 1845–1930.

The last 12-year period, 1919–1930, shows that only 12.48 per cent of the period copper production was available for export and that 87.52 per cent was consumed within the United States. This period embraces 39 per cent of all the domestic copper mined during 1845–1930.

The foregoing authoritative data embracing 82 per cent of all the copper mined within the United States during 1845–1930 shows conclusively a great increase in domestic consumption of copper and a corresponding decrease in the amount of copper available for export. This analysis does not cover isolated years, but represents an accurate cross-section of virtually all the copper mined during the industrial life of our country.

Free-trade copper propagandists have and are deliberately spreading the misinformation that we must export up to 50 per cent of our domestic copper production in order to function efficiently, the truth being, as shown by Table 3 that we have only exported one-fourth of this rate during a period that produced nearly one-half of our total domestic production.

The domestic market on the average consumes nine times more domestic copper than is exported. The home market is vastly more valuable to the domestic copper miner than the uncertain competitive foreign market.

The domestic copper mines have provided an ever-increasing production rate from 1845 to 1929, as Table 1 denotes. The domestic copper areas will continue to deliver copper for an indefinite period, provided the industry secures adequate tariff protection; domestic copper will be furnished at a comparative cost and in volume in the years to come equivalent to the cost and volume detail of the protected steel, lead, and zinc industries. The present protected metal industries

could not function efficiently without protection, and they are not permitted to meet free-trade competition within our home market. Copper has just as rigid a domestic cost scale to meet as any of the present protected metals. It is unfair to isolate copper in the free-trade zone; it should be accorded the same degree of protection extended other domestic products, and when this is done, the domestic copper areas will continue to meet domestic consumptive demand for generations to come.

Chapter XI

FOREIGN COPPER PRODUCTION

In scanning world copper production statistics we note the outstanding fact that during the past nearly 50 years, when the United States furnished about one-half of the world's copper supply, the only continuously increasing copper competition came from Chile, Belgian Congo, and Canada.

About 1883, when the copper production of Montana and Arizona added to that of Michigan gave our country undisputed control of the world's copper market, we find that Spain and Portugal began to decline as important copper producers. These two countries mined about 22 per cent of the world's copper as of 1883, and Chile and the United States each produced about the same percentage as of that date. We note that there has been persistent decline in the world copper production percentage rate of Spain and Portugal from 1883 to the present rate of about 3½ per cent.

We likewise find that Japan's world percentage rate reached a maximum of 7 per cent during the past 50 years and is now less than 4 per cent of the world's copper production.

Peru reached a maximum of about 3½ per cent of the world's copper production during the past 50 years, but at the present time its rate is less than 3 per cent.

Mexico reached a maximum of 8½ per cent of the world rate some 30 years ago, when the Pilares and Cananea mines became producers, but since that time has declined persistently to the present rate of about 3 per cent.

The combined production percentage rate of Chile, Belgian Congo, and Canada as of 1912 was about 9 per cent, whereas the United States rate for that year was about 57 per cent of the world's copper production.

We note a persistent increase of the combined production rate for Chile, Belgian Congo, and Canada from 9 per cent in 1912 to about 14 per cent in 1920 and to about 27 per cent in 1929. During this interim the United States rate declined to 47.7 per cent.

It has already been stated that the increased production rate for 1912–1929 of Chile and Belgian Congo, to which can be added Canada, is the direct cause for the great decline in the world rate for the United States during said period. This combined competitive production rate for Chile, Belgian Congo, and Canada is persistently and continuously increasing.

This combined rate of increase for the three countries the past 20 years is ominously coincident with the 20-year domestic rate factors from 1865 to about 1885. At the beginning of this period the United

States was producing about 9½ per cent of the world's copper production; midway thereof it produced about 14½ per cent, and at the end of said 20 years the United States was producing about 27 per cent of the world's copper production. These 20-year rate factors for the United States are practically identical with those stated aforegoing for the combined countries of Chile, Belgian Congo, and Canada during the period 1912–1929.

In the writer's opinion these equivalent percentage factors are not coincidental, but they are equivalent for the reason that they are due to similar copper production forces.

As of about 1869 we find Calumet & Hecla adding its tremendous copper wealth to the Lake Superior copper production, and from 1880 to 1885 we find the copper wealth of Montana and Arizona added to our domestic output. The plant facilities and copper ore reserve factors as of 1885 indicated a continuous increase in the succeeding domestic 20-year world-production rate.

As of 1912 Chile, Belgian Congo, and Canada evidenced to the world that they possessed copper ore deposits of great commercial value. As of 1920 it was well known that the three foregoing countries had developed copper ore reserves of very great value. By 1929 it was well known that the explored Rhodesian extension of the Belgian Congo ore area had added enormous copper values to the other three foreign ore reserves. At the present time it is known the world over that these foreign copper ore reserves exceed many times in world competitive value the developed ore reserves within the United States. Furthermore, the foreign plant facilities of the present and nearing completion, combined with the enormous foreign copper ore reserves already developed, indicate beyond question a continuation of the past 20-year world percentage rate increase.

There are no new ore reserve indications of this day visible within our domestic copper areas that can compare in cost or volume factors with these new foreign reserves. The United States is to-day confronted with the same degree of proportional competition from these foreign ore reserves that the domestic copper reserves of 50 years ago directed against the established copper industries within Chile, Spain, Portugal, Germany, Australia, and South Africa.

As already stated, Chile, Spain, Portugal, Australia, and South Africa, 50 years ago just as to-day, mined copper for export only. Their domestic consuming market was negligible. Consequently, as our low-cost large-volume domestic copper began to penetrate into the world channels of commerce—from behind the effective tariff barrier of 1869—it forthwith displaced the high-cost low-volume copper product from these foreign areas, the result being the virtual destruction of the copper-mining industry within all these foreign copper-producing countries, for the reason that a protective tariff would have been useless in the absence of a sufficient domestic demand for copper to maintain the domestic industry.

We further ascertain that the domestic world percentage rate of about 27 per cent as of 1885 had increased to about 50 per cent about 10 years later. Twenty years later we find the rate had increased to 55 per cent, and during the World War the domestic rate reached its maximum of 60 per cent. It was during this era of maximum percentage that the combined competition of Chile, Belgian Congo, and Canada reversed the percentage rate and forced our high-cost copper to retreat before the ever-swelling offerings of their low-cost product.

It requires no prophetic vision to foresee that the large-volume low-cost copper from these foreign areas will within the near future furnish 50 per cent, and a few years later, 60 per cent and upward of the copper requirements of the world. This foreign copper will secure control of the world's market a great deal faster to-day than did our rich copper product of 50 years ago. It has, in fact, filled the economic channels of foreign lands and already driven our domestic copper product therefrom. It has invaded our home market and brought dire distress to the domestic copper miner dependent on caring for same.

The domestic copper miner is in a vastly different situation when confronted with foreign copper competition that the miner within the foreign nonconsuming copper countries. The foreign copper miner of 50 years ago, had, or could easily have secured, a tariff as against the foreign product, but none of these copper-producing countries consumed any copper. The placing of a tariff barrier under such circumstances was useless.

However, the domestic copper-consuming market is greater than all the other copper-consuming markets scattered here and there throughout the world. Our citizenship has a per capita copper consumption rate 15 times greater than the foreign rate. The center of this consumption factor lies only about 1,500 miles from the loci of our domestic copper-mining industries. The domestic copper miner in selling his copper ingot to his industrial brother within his own domain is not alone aiding his country in maintaining a vitally essential domestic industry, but our domestic copper miner is dealing with human and economic factors of proven value.

All the domestic copper miner has to do in order to remove the menacing foreign copper competition now enveloping him is to seek refuge behind the tariff barrier he was driven from about 40 years ago. The copper tariff pathway was marked 85 years ago, and in 1869 its way was blazed and maintained for more than two decades, during which time was founded the great copper-mining industries of the West that now produce 90 per cent of our domestic copper.

The copper mining industry of our country was initiated, maintained, and brought to a self-sustaining basis through the medium of adequate tariff protection. It is absurd to contend that the tariff medium that gave and maintained its economic life during its weak and formative period can not forthwith sustain it during its present weakened state. To claim otherwise is to disregard the past history of not alone the domestic copper mining industry, but likewise all of the other protected domestic industries.

There is no need in setting out in detail the productive capacities of Chile, Belgian Congo, Northern Rhodesia, and Canada. There is ample evidence available that Belgian Congo has now installed or about completing an annual output capacity of 600,000,000 pounds of copper. Northern Rhodesia has also completed or will soon provide an annual output capacity of about 600,000,000 pounds of copper. Chile Copper Co. can easily increase its annual output capacity to 700,000,000 pounds of copper. Braden Copper Co. can easily increase its annual capacity to 300,000,000 pounds, and Andes Copper Co. can produce 200,000,000 pounds of copper per year. In addition, it is believed that Canada will soon be able to maintain an annual output of 400,000,000 pounds of copper.

The foregoing estimated copper output capacities aggregate 2,800,000,000 pounds. This equals about 65 per cent of the world's copper production for 1929, and is 40 per cent greater than our domestic production for that year.

The foreign copper menace, so far as the domestic copper miner is concerned, is not one of the future; it is not alone strangling the domestic industry now, but it began its constrictive machinations some time ago. Relief from this destructive competition must be forthcoming immediately or the industry will suffer an irreparable injury.

Chapter XII

DOMESTIC COPPER-ORE RESERVES

The data pertaining to domestic copper-ore reserves has been obtained in most part from Mineral Industry for 1929. The tabulation and summary data were prepared by the writer.

The domestic copper-ore reserve data is herewith submitted in Table 4.

Table 4.—*Domestic copper-ore reserves, 1929*

Copper company		Copper ore reserves		
Name	State	Tons	Grade	Pounds of copper
Burro Mountain	New Mexico	11,725,000	1.95	457,275,000
Calumet-Arizona	Arizona	1,829,546	4.15	151,852,318
Calumet-Hecla	Michigan	108,143,000	1.20	2,595,432,000
Consolidated Copper Mines	Nevada	30,000,000	1.10	660,000,000
Copper Queen	Arizona	23,500,000	1.63	766,100,000
Engels	California	556,837	2.00	22,273,480
Inspiration	Arizona	96,010,935	1.40	2,688,306,180
Miami	do	97,391,980	.95	1,753,055,640
Morenci	do	233,000,000	1.20	5,592,000,000
Nevada Consolidated	Nevada, Arizona, New Mexico.	273,500,000	1.47	8,040,900,000
New Cornelia	Arizona	113,262,128	1.25	2,831,553,200
Ohio	Utah	41,000,000	.33	270,600,000
Tennessee	Tennessee	5,779,559	1.20	138,709,416
United Verde Extension	Arizona	625,000	7.50	93,750,000
Utah Copper	Utah	640,000,000	1.07	13,696,000,000
Total		1,676,323,985	1.19	39,757,807,234

The only important known domestic copper ore reserves not included in Table 4 are the Anaconda at Butte, Mont., United Verde at Jerome, Ariz., and Copper Range within the Lake Superior District, Mich. To offset these three group reserves, it will be found that certain foreign group ore reserves are not included in Table 5.

From Table 4, we ascertain that the total domestic copper ore reserves equal 1,676,323,985 tons of copper ore, having an average grade value of 1.19 per cent, and contains 39,757,807,234 pounds of copper.

We further ascertained that the loci of 93.2 per cent of the foregoing copper poundage lies about 2,600 rail miles from New York City. We also find that the loci of 6.8 per cent of said copper poundage lies about 1,350 rail miles from New York City. The average rail mile haul to New York City from the loci of all the known domestic copper poundage equals about 2,515 miles.

CHAPTER XIII

FOREIGN COPPER ORE RESERVES

The foreign ore reserve factors were obtained in most part from "Mineral Industry for 1929." The tabulation and summary were prepared by the writer.

The data pertaining to foreign copper ore reserves is herewith submitted in Table 5.

TABLE 5.—*Foreign copper-ore reserves*

Copper company		Copper-ore reserves		
Name	Country	Tons	Grade	Pounds of copper
Andes	Chile	137,400,000	1.51	4,149,480,000
Braden	do	234,798,000	2.18	10,237,192,800
Burma Corporation	India	4,092,751	1.15	94,133,273
Bwana M'Kuba	Northern Rhodesia	20,894,000	4.20	1,755,096,000
Cerro de Pasco	Peru			
Chambishi	Northern Rhodesia	50,000,000	3.00	3,000,000,000
Chile	Chile	1,000,259,912	2.71	54,292,620,269
Granby	Canada	14,341,970	1.81	519,179,314
Greene Cananea	Mexico			
Howe Sound	Canada	5,643,712	2.10	237,035,904
Hudson Bay	do	18,000,000	1.71	615,600,000
Indian Copper	India	755,630	3.78	57,125,628
International Nickel	Canada	202,000,000	3.00	12,120,000,000
Union Min. Katanga	Belgian Congo	85,979,000	6.41	11,022,507,800
Matahambre	Cuba	965,412	5.00	96,541,200
Moctezuma	Mexico	3,499,600	2.71	189,678,320
Messina	South Africa	910,459	3.04	55,355,907
Mount Lyell	Australia	1,807,313	4.51	163,019,633
Mufulira	Northern Rhodesia	100,000,000	5.00	10,000,000,000
N'Changa	do	75,000,000	3.50	5,250,000,000
N'Changa W. Ext	do	50,000,000	6.00	6,000,000,000
N'Kana	do	100,000,000	4.20	8,400,000,000
Noranda	Canada	3,426,000	7.53	515,955,600
Roan Antelope	Northern Rhodesia	250,000,000	3.40	17,000,000,000
Santiago	Chile			
Total		2,359,773,759	3.09	145,770,521,648

It is believed that the elimination of the Cerro de Pasco, Greene Cananea and Santiago ore reserves will about offset the copper reserves of Butte, Mont.; United Verde; Jerome, Ariz.; and certain Michigan reserves which were not included in the domestic-ore reserve estimate outlined in Table 4.

Table 5 shows that the foreign copper-ore reserves amount to 2,359,773,759 tons of 3.09 per cent copper ore containing 145,770,521,648 pounds of copper.

In order to better understand the areal distribution of the foreign copper-ore reserves, the following summary of Table 5 is submitted.

TABLE 6.—*A real summary of foreign-ore reserves shown in Table 5*

Group	Tons	Grade	Pounds of copper	Per cent
Central Africa	731,873,000	4.26	62,427,603,800	43.0
Chile	1,372,457,912	2.50	68,679,293,069	47.0
Canada	243,411,682	2.88	14,007,770,818	9.5
Remainder world	12,031,165	2.73	655,853,961	.5
Total	2,359,773,759	3.09	145,770,521,648	100.0

The consolidated areal group data pertaining to foreign copper ore reserves as set out in Table 6 shows that 99.5 per cent thereof is found within Central Africa, Chile, and Canada; only 0.5 per cent of the total is to be found scattered throughout other foreign areas.

Of the total 99.5 per cent within the aforementioned countries, we note in Table 6 that 43 per cent of the total foreign copper ore reserve is to be found in Central Africa, 47 per cent thereof in Chile and 9.5 per cent within Canada. It will be noted that 90 per cent of the foreign copper poundage is to be found in Central Africa and Chile.

Comparing domestic and foreign copper ore reserves, we note that the foreign reserve contains 3.66 times the amount of copper embraced within the domestic reserve. Furthermore, we note that the ore grade of the foreign copper ore reserve is 2.6 times the grade of the domestic reserve.

We further found that the equivalent rail miles from New York City to the loci of the Central African copper poundage equals about 1,850 miles, this being a composition of 1,250 rail miles from the loci of the copper poundage to Benguela Harbor on the West Coast of Africa, and 580 equivalent rail miles, equals 5,800 nautical miles, from Benguela to New York City.

We further ascertained that the equivalent rail miles from New York City to the loci of the Chilean copper poundage equals about 577 miles, this amount being a composition of 173 rail miles from the loci of the Chilean poundage to tidewater port and 404 equivalent rail miles, or 4,040 nautical miles from said port to New York City.

The rail haul miles from the loci of the Canadian copper ore reserve to New York City equals about 1,150 miles.

It was further ascertained that the equivalent rail-haul miles to New York City from the mean loci of the Chile and Central Africa copper poundage equals about 1,185 miles. The equivalent rail-haul miles to New York City from the mean loci of the Chile, Central Africa, and Canadian copper ore reserves equals about 1,180 miles.

It was stated during the discussion of domestic ore reserves that the distance from the loci thereof to New York City equals about 2,515 miles.

From the foregoing data we find that whereas the Chile, Central Africa, and Canadian copper-ore reserve poundage loci is only 1,180 equivalent rail miles from New York City, the loci of the domestic-copper reserve is 2,515 miles therefrom.

In other words, all this foreign competitive copper poundage can be laid down at New York City at a transportation cost of about 40 per cent of the domestic transportation cost per pound of copper.

Summarizing, we find that the foreign competitive copper poundage is 3.66 times greater than our domestic poundage and can be laid down at New York City at a transportation cost of about 40 per cent of the domestic cost.

Chapter XIV

COPPER IMPORTS AND EXPORTS

Copper imports are increasing far more rapidly than copper exports. A situation of this kind can only result in destruction of the domestic copper mining industry, permitting the foreigner to soon control the total vital copper necessities of our country.

We note 20 years ago, for the year 1909, there was imported about 322,000,000 pounds and there was exported about 683,000,000 pounds of copper.

For 1929 we imported about 974,000,000 pounds and exported 998,000,000 pounds of copper.

Foreign copper imports have increased about 300 per cent and domesti-ccopper exports have only increased about 50 per cent during the 20-year period.

We submit Table 6A, which shows the relationship of domestic imports and exports with domestic-copper production, consumption, and available surplus for the 28-year period, 1903–1930; said period embraces 81.98 per cent of the total domestic-copper production during 1845–1930.

TABLE 6A.—*Domestic copper imports and exports compared with production and consumption, 1903–1930*

[United States copper; 000,000 omitted]

Period	Production		Consumption		Available surplus		Excess exports		Exports		Imports	
	Lbs.	*P. ct.*	*Lbs.*	*P. ct.*	*Lbs.*	*P. ct.*	*Lbs.*	*P. ct.*	*Lbs.*	*P. ct.*	*Lbs.*	*P. ct.*
1903–1914	12,017	33	7,636	27	4,381	55	4,361	60	7,745	38	3,384	26
1915–1918	7,111	20	5,672	20	1,438	18	1,444	20	3,354	16	1,910	14
1919–1930	17,342	47	15,178	53	2,165	27	1,481	20	9,462	46	7,981	60
1903–1930	36,470	100	28,486	100	7,984	100	7,286	100	20,561	100	13,275	100

Table 6A graphically depicts, through the medium of percentage comparisons, the relationship between available copper surplus and domestic excess exports during the period 1903–1930; these two are very nearly equal for the 28-year span and closely parallel one another percentagely during the three subdivisional periods.

The foregoing table likewise shows that whereas our domestic copper exports only increased 21 per cent, on the other hand domestic copper imports increased 130 per cent, or six times more rapidly, when comparing postwar period 1919–1930 with the pre-war period 1903–1914.

It is likewise interesting to note the near parallelism percentagely when comparing the domestic consumption factors with those for domestic imports. Whereas domestic consumption increased 96 per cent, we find domestic imports increased 130 per cent when comparing the postwar period with the pre-war period; this emphasizes that foreign copper is being imported even faster than our rapidly increasing domestic copper consumptive demand.

We further note that whereas domestic copper production only increased 43 per cent, foreign copper imports increased 130 per cent, or three times faster, when comparing 1919–1930 with pre-war period 1903–1914.

We find an unending increase in the stream of foreign copper injected into the industrial channel of our country. This foreign copper is dumped onto our market in the form of ores, concentrates, matte, blister, refined, scrap, and composition. It is all admitted free of duty, and the foreigner emboldened by the duty immunity accorded his product is rapidly increasing the percentage of refined copper imports.

The specious plea of the copper importer 62 years ago was that the domestic smelter must have foreign copper ore to function efficiently, but the copper importer of to-day ships in more than 100,000,000 pounds of electrolytic refined copper that does not even pay tribute to a domestic refinery, saying nothing about the domestic smelting industry.

The proven practice of the copper importer is to utilize the peon and slave labor within these foreign ore areas to complete the cycle from ore to the refined ingot, the raw resource that the domestic copper importer needs for his domestic rolling mills. The domestic copper importer is becoming callously bolder, openly spending tens of millions of dollars for additional copper refining plants in South America, Canada, and Central Africa.

During 1916, we note that the domestic importer of refined copper brought in from his Chilean ore estates only about 5,800,000 pounds of copper; in 1926 he brought in about 167,000,000 pounds, and for 1929 about 133,000,000 pounds of refined copper. The importer is delivering this Chilean refined copper not alone at Atlantic tidewater ports, but at Pacific ports as well.

We shall soon see a veritable avalanche of refined copper enter this country from Canada and Central Africa. Canada will naturally sell its refined copper in the United States for the reason it can deliver its refined product free of duty at minimum freight rates to the large consuming domestic areas bordering the Great Lakes. Central Africa will first satisfy the European market, then invade our domestic market with their refined product. Katanga, which formerly shipped large quantities (114,500,000 pounds in 1927) of blister copper to be refined domestically, is now sending most of this Congo copper to their new Belgian refinery, the refined product of which is disposed of in Europe. In addition, Katanga is furnishing more and more electrolytic copper from their new leaching plant, which will soon be able to furnish 600,000,000 pounds of refined copper annually. Northern Rhodesia is now furnishing 100,000,000 pounds annually of refined copper, and within three years will be furnishing much more than 600,000,000 pounds annually. Under the foregoing conditions, it is absurd to contend that the high cost domestic copper ingot can meet the foreign ingot competitively within the European market. Neither can the domestic ingot meet foreign competition within our domestic market when the copper importer desires to more fully control same.

This foreign refined copper competition is what has effectually and permanently destroyed the foreign market for our domestic refined ingot. So long as we owned all copper refineries, naturally the foreign product had to be sent here to be refined and then exported. At present, Chilean refined copper is sent direct to Europe, thereby reducing and replacing the demand for the copper ingot from domestic refineries, controlled by the same agency that controls the Chilean product. The peon-labor refined copper ingot from Chile can meet the competition within the European market set by the slave-labor refined ingot from Central Africa.

These two oppressed labor produced ingots can battle one another successfully for control of the world's copper market. It is impossible for the high cost domestic labor produced copper ingot to meet the competition so destructively evident within this foreign area of debased labor products.

The saturnalian free trade maelstrom within which the unprotected domestic copper ingot is caught is no respecter of domestic products. Place any or all other domestic protected products within the free-trade zone and they will be beset by the same destructive economic forces now completing the ruin of our domestic copper-mining industry. The iron, lead, zinc, aluminum, and thousands of other protected domestic industries would be ruined if subjected to the forces now destroying the copper industry.

Referring to Table 3, we note that only 12.48 per cent of our domestic copper production during 1919–1930 was available for export. This 12-year period embraces 39 per cent of all the copper mined within the United States from 1845 to 1930.

The only defense the free trade copper champion gives vent to is that we must export so large a percentage of our domestic production that a copper tariff under such conditions would be useless.

The real motive behind the belligerent free trade copper advocate is the huge foreign copper poundages he possesses and which he knows will be practically worthless if excluded from our already large and rapidly increasing domestic copper consuming market.

We know that the policy was enunciated 40 years ago, when the McKinley bill was reported to the House of Representatives, that even though a domestic product had a large exportable surplus, nevertheless it was entitled to tariff protection "to hinder a still larger importation of foreign produce, and thus save the market from still greater depression." On the foregoing tariff theory we find protective duties levied to aid the wheat producer, who, through the uncertain domestic competitive vagaries of 6,000,000 coproducers and the danger of maximum and minimum moisture and heat details, plus visitations of destructive insect, hail, wind, and fire hazards, can never approximate beforehand within 40 per cent of the annual average output. Nevertheless, even under such uncontrollable economic production conditions, we find protection extended on the theory that the domestic producer of an essential product is entitled to the home market for disposal of same.

Under the foregoing theory, the domestic copper ingot is entitled to protection even though it could not regulate its productive capacity to exactly meet domestic demand. The wheat producer at times exceeds his domestic market by 40 per cent, hence must needs sell his excess product for whatever price it will bring in the world market. In consequence, the profit realized within the domestic market is lowered by the loss sustained in selling a large part of his output in the cheaper foreign market.

A protective tariff can be made rigidly effective for a domestic industry such as the domestic copper-mining industry that only has slightly more than 10 per cent of its annual output available for export. A copper tariff will be particularly effective in according the domestic copper miner a commodity price for his product within a rigidly protected domestic market.

The steel industry anticipates exporting up to an average of 10 per cent of its annual output. If such an export percentage is not profitable, the industry regulates its ingot capacity to meet domestic requirements. Sometimes the ingot capacity factors are at 100; other times, as at present, at about 35 per cent. There is no guesswork about regulating metal production capacities; it can be done quickly and accurately.

The domestic copper-mining industry will surely, when it again receives the protection taken from it 40 years ago, regulate its output to meet a price demand to harmonize with the maintenance of an essential American industry for the benefit of essential domestic citizenship.

It is interesting to scan proven export and import data within the domestic copper mining industry, when a rigid ore-to-ingot copper tariff was in effect. The very year the 1869 copper tariff was laid, we find that the domestic copper industry exported 8.7 per cent of its annual value output and imported 8.5 per cent thereof. In other words, when a 5-cent copper tariff was laid, the industry was only importing 8.5 per cent of the annual copper production value compared with 43.7 per cent for the year 1929. If the domestic industry needed protection as against the foregoing import rate at that time, we need it five times as badly during the present era.

In 1873 we note the economic fact that even when a 4.5 cents per pound ingot tariff was in effect it was not protective against foreign copper importations. For the year 1873 we find that we only exported 2.7 per cent of our total annual copper production value, yet the dutiable imports amounted to 38.6 per cent thereof.

During 1885, when a 4-cent tariff ingot rate was in effect, and when the very huge and excessive new production of Montana and Arizona was glutting the domestic market, we find that the total imports only amounted to 2.8 per cent of our total domestic production value, although the dutiable exports amounted to 56.6 per cent thereof.

For 1889, virtually the last year when a 4-cent copper ingot tariff was still effective, it was found that even though we exported 31.8 per cent of our protected annual copper production value, yet the total imports for that year only amounted to 1.6 per cent of the annual output value.

The foregoing statements denote that prior to 1890, the year the 1869 copper tariff was practically destroyed—from 1869 to 1889, a period of 20 years, when our domestic copper mining industry enjoyed rigid tariff protection—the total exports reached as high as 56.6 per cent and the total imports up to 38.6 per cent of our total annual copper production value. We note, however, that for any year when the exports ran high, the imports were low; likewise when the imports were excessive, the exports were small.

The foregoing facts, taken from our own domestic copper mining industry, prove conclusively that we can export large quantities of copper when the industry is rigidly protected, yet prevent the flooding of the domestic market by the foreign product except during excessive domestic copper prices, which was the cause of the 1873 importation.

It may be mentioned that from 1923 to 1929, for the 7-year period subsequent to the passage of the Fordney-McCumber Tariff Act, the total exports averaged about 65 per cent and the total imports about 40 per cent of the total average annual copper production value for that period. During this 7-year period we find that only about 15 per cent of the total copper exports were dutiable and only about one-hundredth part of the imports were likewise dutiable.

The last sentence means that during this 7-year period there was a hundred times more value of protected copper exports than protected copper imports. This is certainly rigid protection for the manufactured copper article, to say the least. The copper miner never had a ratio exceeding 15 to 1 from 1869 to 1890, but the copper manufacturer at this very moment enjoys the ratio of 100 to 1.

We note back in 1921, when the copper manufacturers appeared before the Senate Finance Committee, they disclaimed wanting prohibitive duties on the manufactured copper article. However, such a list of prohibitive duties was accorded them, as the import record discloses for the 7-year period mentioned aforegoing.

These copper fabricators dwelt on the cheap competitive labor within England, France, and Germany, yet several of these rolling mill agencies were even then interested in the peon-produced copper of South America.

These domestic copper manufacturers were eloquent in their statement anent the retention of "the American market for American institutions."

They were very much alarmed at this menacing foreign copper fabricating competition, these foreigners who were expanding their productive facilities to enter the export market. "This means exportation—and exportation to the United States as the best market place in the world."

Their spokesman stated that "The export business is practically an unknown quantity"; that the foreigner could buy American copper cheaper in London than the copper fabricator could in Detroit. Likewise, the German and French competitor enjoyed just as cheap copper as the American manufacturer. In other words, the domestic copper manufacturer could not hope to export his manufactured product.

The writer is of the opinion that the copper manufacturer of to-day is just as much opposed to an "ore-to-ingot" copper tariff as was his prototype in 1868; that the domestic copper manufacturer is doing to-day what his economic forbear did in the sixties, shipping in the repressed-labor copper of foreign lands as his basic raw product, which accounts for the effrontery in trying to force the invaluable domestic copper ingot to remain within the free-trade zone.

An examination of the export activities of the domestic copper manufacturer since the passage of the Fordney-McCumber Tariff Act is most interesting. This act went into effect September 21, 1922, therefore, for comparative purposes we shall start with the year 1923.

The writer has assembled all the copper poundage within the rigidly protected manufactured copper article list, exported in the form of rods, pipes, and tubes, plates, and sheets, wire (except insulated), insulated wire and cable, and other manufactures. These export copper poundages cover each of the eight years from 1923 to 1930. We find for these eight years that there was 886,558,509 pounds of copper exported in highly protected manufactured form.

We also ascertain from the compilation forming the basis of Table 3, that there was available for export during these eight years, 1,689,470,565 pounds of domestic copper. This is the copper over and above domestic copper consumption requirements for said eight years. From the foregoing we find that 52.46 per cent of the total available copper export surplus is equivalent to the copper poundage exported in protected form. We further find that copper exported

in the form of brass, bronze, ore, old copper, etc., in fact, other than ingot copper, reduces the copper exploited in refined ingot form to less than about 12 per cent of those other classes.

In other words, the copper available for export in unprotected refined ingot form is less equivalently than that actually exported in protected manufactured form, also in brass and other copper products.

We further note that for the year 1930, 90.72 per cent of the copper mined was consumed domestically, and only 9.28 per cent was available for export. We further find that the exported protected manufactured product had a copper poundage equivalent to 99.8 per cent of the export surplus.

We also note that for the year 1925, the domestic copper manufacturer actually exported 15.5 per cent of his total annual production of 447,218,001 pounds of highly protected copper plates and sheets, rods and bars, and pipes and seamless tubes.

The fact is that the copper manufacturer, rigidly protected as he is, can and does export any manufactured surplus he desires. The domestic copper miner can likewise export any surplus that accumulates after he is again accorded the protection taken away from him 40 years ago.

Chapter XV

COPPER PRICES

The copper prices for various years used in this discussion will be found on page 580, "Copper in 1929," United States Bureau of Mines.

In compiling Table 3, the writer also ascertained the weighted average copper prices during the three periods, covering 28 years, said periods embracing 82 per cent of the copper produced during 1845–1930.

The weighted average price for copper 1903–1914 equals 14.8 cents, for 1915–1918 equals 24.0 cents, and for 1919–1930 equals 14.9 cents per pound.

It was also found that the weighted average copper price for 1923–1930 equals 14.4 cents; for 1915–1930 equals 17.5 cents; for 1903–1930 equals 16.6 cents per pound.

The foregoing denotes that we sold of the total copper production 1845–1930, 27 per cent thereof during 1903–1914, at an average price of 14.8 cents per pound; we sold 16 per cent of the total production during 1915–1918 at an average price of 24 cents per pound, and 39 per cent of the total production during 1919–1930 at 14.9 cents per pound. The average weighted price received for all the copper sold during 1903–1930 equals 16.6 cents per pound.

The outstanding phase of the foregoing factors being that the average price of copper for the two 12-year periods immediately preceding and following the war period, are practically equal. The price for the prior period equals 14.8 cents, and for the later period equals 14.9 cents per pound.

It is well known that practically all domestic commodities produced during the 12-year period subsequent to the war sold at a great deal higher average rate than that prevailing during the prior 12-year period.

It is likewise well known that in the metallic division of our domestic commodities nearly all domestically produced metals such as iron, lead, zinc, etc., sold at higher prices subsequent to the war than 12 years prior thereto.

Scanning the annual production value of metals produced domestically, we note that the value of copper is only exceeded by the annual production value of pig iron. We note 20 years ago, 1910, that the annual production value of copper only equaled 33 per cent of the value of pig iron produced for that year. For 1929 we find that the production value of copper had increased to 48 per cent of the annual value of pig iron. The foregoing emphasizes the present domestic value relationship of copper, its output value equalling about one-half the value output of the colossally important pig iron industry.

The metallic class value of the copper ingot can only be compared to the class embracing the steel ingot or billet. It is needless to go into explanations, but sufficient to state that pig iron metallurgically is comparable to blister copper but not to the refined electrolytic copper ingot, the manufactured finished product, marketed by the domestic-copper miner.

Comparative data of great interest is obtainable by equating the value relationship of the steel billet, electrolytic copper ingot, likewise the refined metals of lead, zinc, and aluminum.

We note, however, that the only metal ingot or billet comparable to the refined copper ingot in gross annual production value is the steel billet. Its unit weight value is only about one-tenth that of copper, yet its relationship is submitted as a matter of interest.

Metals like lead, zinc, and aluminum, which more closely approximate the unit weight value of copper, are worth while comparing.

It is interesting to note that the annual production value of the unprotected manufactured electrolytic copper ingot for 1929 is greater than the combined value for that year of all the following highly protected domestic metallic mineral products: Aluminum, antimony, bauxite, cadmium, dozens of different ferro-alloy combinations, lead, manganese ore, mercury, nickel, tungsten ore, vanadium ore, and zinc. The foregoing list embraces practically all the leading metallic mineral products of the United States except pig iron, gold, and silver.

We find that refined lead within the foregoing protected list has a greater annual production value than any other of the enumerated metals; consequently it will be used in conjunction with the protected Bessemer steel billet for comparison purposes with the unprotected copper ingot.

We shall cover identical year period spans as outlined in Table 3 in comparing the foregoing steel, lead, and copper unit values. Data for Bessemer steel billets and refined lead prices, however, were only available up to 1929, as outlined in the latest published Statistical Abstract of the United States, namely, for 1930.

Outlining and consolidating the data for the steel, lead, and copper units, we find for the war period, 1915–1918, that billets averaged $46.17 per long ton, and lead and copper, 6.93 cents and 24 cents per pound respectively. For the 12-year period prior to the war we find that billets averaged $24.74 per ton, and lead and copper respectively, 4.60 cents and 14.8 cents per pound. During the 11-year period subsequent to the war, we find that billets averaged

$37.88 per ton, and lead and copper, respectively, 6.97 cents and 15 cents per pound.

We also ascertained that for the seven years following the passage of the Fordney-McCumber Tariff Act, namely, 1923–1929, billets averaged $35.93 per ton, and lead and copper, respectively, 7.53 cents and 14.5 cents per pound.

Comparing the average value of steel billets for the period 1923–1929, we find same to be 45.3 per cent greater than the average value for 1903–1914.

We likewise find that the value of refined lead for 1923–1929 was 63.7 per cent greater than the value for 1903–1914.

It was likewise ascertained that the value of refined copper for the period 1923–1929 was 2.1 per cent less than the average copper value price for the period 1903–1914.

Consequently, we find that steel billets sold 47.4 per cent higher and lead 65.8 per cent higher proportionately than copper after the passage of the Fordney-McCumber Act, when compared with the average prices for 1903–1914.

We also find that the steel billet under the Fordney-McCumber Act was so rigidly protected that billet imports have been inconsequential, subsequent to the passage of said act.

We further find that refined lead imports only average about 10 per cent of our domestic consumption since the rigid protection accorded lead under the Fordney-McCumber Act.

Refined copper was left on the free list by the Fordney-McCumber Act, and due to that reason alone it was useless and impossible to regulate our domestic production to meet domestic consumption when every peon and slave producing copper area the world over was pouring in an average of 800,000,000 pounds of copper annually, same amounting to about 50 per cent of our average production.

Our legislative history from 1789 to date does not present a parallel to the protective neglect directed against the domestic copper miner's product during all these years.

He has been forced to sell his product at a ruinous commodity rate—at the world's free trade price—yet forced to pay the high cost commodity factors within our highly protected domestic market.

Let the apologist for this vicious protective discrimination as against the equities of the domestic copper miner explain why copper, the only unprotected domestically produced metal, sells ruinously below all the protected metals.

Likewise, let these disciples of internationalism show that if free trade is such an excellent thing for the copper miner, it should prove beneficial for the copper manufacturer who exports proportionately as much poundage as the miner.

If copper had been rigidly protected during the 1923–1929 period, it would have beyond question sold equivalently as high as the rigidly protected steel billet and refined lead.

Copper should have sold about 50 per cent higher during the 1923–1929 period than it did, or at a price approximating 22 cents per pound in order to enable the domestic copper-mining industry to pay the adequate wage, supply, transportation, and tax items that are necessary to maintain our domestic citizenship and institutions. Furthermore, this price would not alone have compensated for the

loss of the 12.5 per cent of copper exported, but likewise would have placed in sight incalculable copper ore reserve poundages, and maintained communities that have had to be abandoned.

All that the domestic copper miner demands is the restoration of the protective equities that he was deprived of in 1890 through the machinations of foreign copper producers and domestic internationalists.

When these protective equities are restored, as they must be in order to accord justice universally and without special favor throughout our domestic area, then the price of copper will approach and equal the commodity rate of all the protected metals.

Chapter XVI

DOMESTIC COPPER COSTS

It is quite evident from the data already submitted showing the destructive nature of the free-trade competition that has forced the domestic copper miner to take whatever price he could get for his product within his home market, that such a forced selling of product greatly below paralleling metallic commodity rates, has necessarily prevented the payment of domestic commodity rates for labor and taxes.

Such selling of product at forced competitive prices during the past decade has not alone curtailed domestic exploratory efforts to place additional copper poundages within our vitally essential domestic ore reserves, but has likewise resulted in the virtual abandonment of development effort within 80 per cent of our domestic copper-mining districts.

Under such free-trade competitive conditions, it is readily understood that the domestic copper mining companies, for years past, have had to hammer their costs down; have been forced to pay minimum labor and tax details; likewise compelled to virtually abandon exploratory activities within new and promising ore areas; they have also had to mine their higher grade ore reserves in order to exist at all.

Under the foregoing statement of fact, it must necessarily follow that the cost data for years past, within the domestic copper mining industry, is much below what it would have been had the companies been able to pay a commodity rate for labor and taxes, likewise maintain essential ore explorations.

The writer ascertained that the weighted average price for copper during the 8-year period, 1923–1930, equals 14.4 cents per pound.

In scanning the list of annual average copper prices for said period, we find that for the year 1928 copper sold at the average price of 14.4 cents per pound. Consequently the cost data for said year should give a close approximation of the average annual cost factors for said 8-year period.

We find in the June 8, 1929, issue of the Engineering and Mining Journal an article by Mr. A. B. Parsons, analyzing the cost of producing copper, by certain domestic companies, for the year 1928.

Selecting the domestic cost data from Table 5 in said article, which gives the domestic cost per pound after depreciation and sundry credits, but before depletion, we submit the following tabulation:

TABLE 7.—*Cost factors of certain domestic copper mines*

Company	Copper production, 1928		
	Millions of pounds	Per cent	Cost, cents
Utah Copper	273.8	15.0	7.29
United Verde Extension	45.2	2.5	7.53
Mohawk	21.2	1.2	8.35
New Cornelia	78.0	4.3	9.30
Group 1	418.2	23.0	7.75
Nevada Consolidated	268.5	14.6	9.42
Calumet and Arizona	52.4	2.8	9.82
Magma	36.5	2.0	9.75
Calumet and Hecla	121.2	6.6	10.67
Group 2	478.6	26.0	9.80
Groups 1–2	896.8	49.0	8.84
Inspiration	88.1	4.8	11.13
Phelps Dodge	204.3	11.2	11.57
Miami	48.3	2.7	12.04
Copper Range	24.3	1.3	13.10
Group 3	365.0	20.0	11.63
Groups 1–2–3	1,261.8	69.0	9.65
Remainder	564.1	31.0	12.00
Total	1,825.9	100.0	10.37

The cost factors for only 12 domestic copper producing companies were submitted in the article aforementioned. These 12 companies only accounted for 69 per cent of the domestic copper production for 1928. The remainder of the annual production, amounting to 31 per cent, aggregating about 564,100,000 pounds of copper, came from 16 different States and Alaska.

We note in Table 7 that 23 per cent of the annual production for 1928 cost an average of 7.75 cents per pound, and 26 per cent thereof cost 9.80 cents per pound. The combined cost of this 49 per cent equals 8.84 cents per pound.

We further note that 20 per cent of the annual production cost 11.63 cents per pound.

It is difficult to even approximate what the average annual cost per pound for the remaining 31 per cent amounted to for the year 1928. This remainder was scattered through 16 different States and most of this cost production was high, higher on the average than any of the 12 company cost factors submitted in Table 7. The writer deems it fair, after carefully considering that Anaconda's very high cost Butte output accounts for nearly one-half of this balance, to assume an average cost of 12 cents per pound for this remainder. This 12-cent assumed cost about equals the known cost for the production embraced in Group 3.

Consequently we ascertain that the total average cost per pound of copper produced for 1928 equals about 10.37 cents.

We further note that 49 per cent of the 1928 output had a cost of about 9 cents per pound, and the remaining 51 per cent, a cost of about 12 cents per pound. The difference between the low and high domestic costs amounts to about 6 cents per pound.

We further find that of the porphyry mines producing 52.6 per cent of the annual production, about two-thirds thereof came from the low cost open pit mines, namely, Utah, Nevada Consolidated (except Ray), and New Cornelia, and about one-third from t e higher cost Inspiration, Phelps Dodge, and Miami underground porphyry mines.

The three high-grade mines, namely, United Verde Extension, Calumet and Arizona, and Magma, only furnished 7.3 per cent of the annual output.

The three low-grade Michigan copper-producing companies, namely, Mohawk, Calumet and Hecla, and Copper Range, furnished 9.1 per cent of the annual production.

The foregoing shows that of the 69 per cent production details listed in Table 7, 61.7 per cent came from the low-grade mines and only 7.3 per cent came from the high-grade producers.

The listed domestic copper reserves within Table 4 show that more than 90 per cent are embraced within the reserves of the foregoing named low-grade copper producers for 1928.

We also ascertained that the average yield of copper per ore ton mined for 1928, only equaled 1.41 per cent.

The immediate future domestic production of copper depends upon securing same from our domestic porphyry ore reserves within the western areas, and the vast but low-grade native copper ore reserves of the Lake Superior region.

The known domestic copper poundage as listed in Table 4 will only supply our domestic requirements for 20 years. It is undeniable that this proportionately limited reserve should be increased as quickly as possible and maintained at a constant high level as a matter of national defense.

It will require years of time and the expenditure of vast sums of money, by thousands of different prospectors, throughout our 217 known domestic copper mining districts in order to maintain and increase our known domestic copper reserves.

The present known domestic copper ore reserves have doubled the past decade, due to lowered metallurgical and mining costs. This increase of reserves has been solely within the proven ore areas of 10 years ago. No new ore tonnages have been added the past decade within the hundreds of unexplored domestic districts. No new ore tonnages will ever be developed within these new districts unless rigid protection is accorded to care for this increased cost.

We note in Table 7 that 51 per cent of the 1928 annual copper production cost about 12 cents per pound, even without an allowance for adequate exploratory expenditures to maintain essential domestic ore reserves. Neither does this cost embrace the vitally essential items of increased labor and tax details in order to bring these factors in alignment with those existent within the rigidly protected domestic industries. The cost will be considerably in excess of 12 cents per pound for domestically produced copper when protection becomes really operative within the domestic copper mining industry. We find that costs increased within the highly protected steel billet and lead industries when they were accorded rigid protection due to the fact that they paid these increased commodity labor and tax items which in turn caused them to increase their product price fully 50 per cent.

When protection is accorded the domestic copper miner's product, provision must be made to care for a cost considerably in excess of 12 cents a pound in order to care for the aforementioned items.

At the present moment we note that one-half of the domestic product costs 12 cents per pound to produce. Hence, in order to protect at least one-half of our domestic copper mining industry, said protective differential per pound must not be less than the difference in said 12-cent per pound cost and the cost of foreign copper delivered within our domestic market.

It would be absurd to levy a duty rate to only protect the 49 per cent with their 9-cent cost, and allow the 51 per cent to be destroyed through ruinous free-trade competition. The protective history of this country is replete with examples where duties were laid to protect 100 per cent of the productive capacity of domestic industries and never limited protection to the low cost portion thereof.

For example, we note on page 2001, Tariff Hearings before Ways and Means Committee, Sixtieth Congress, second session, the following:

> Tariff revision which does not fully equalize the difference in cost between England and Germany's lowest producing points and our highest producing sections, and which does not allow for reasonable profits, will not be protective, but will expose the steel and iron industry and its labor to the disastrous effects of dumping, as practiced by foreign syndicates.

The foregoing plea was made by the independent steel producers of the United States. They pointed out that, whereas the United States Steel Corporation, which produced 50 per cent of the steel products of the country, averages $10.20 net profit per ton on steel sold; the seven independents appearing showed that they only averaged $3.03 per ton profit; that a reduction of duty equal to $3 per ton would destroy the independent steel producer's margin of profit but still leave $7.20 protection for the Steel Corporation, resulting in said corporation gaining absolute control of the domestic market.

It was the independent steel producers, numbering some 277 different works and companies in 1909, who made the plea outlined aforegoing. The Steel Corporation did not seek protection; it was strong enough to give industrial battle to any competitive force domestically, and even abroad if it so desired. But the hundreds of small independent steel producers were the ones that demanded and secured rigid protection for the industry.

The foregoing plea embodies exactly what the small independent domestic copper miner demands as essential if he is to survive industrially, namely, that the protection accorded should fully equalize the difference in cost between the foreign copper ingot lowest cost point and our highest domestic copper ingot cost, and also allow for reasonable profits. If this is not done, it would not be protective, but will expose the domestic copper-mining industry and its labor to the disastrous effects of dumping, as practiced by foreign syndicates.

In view of all the foregoing, it is certainly fair to assume the minimum average cost of 12 cents per pound for domestically produced copper. This 12-cent cost does not care for reasonable profits or exploratory cost details, neither does it cover the increased cost which will ensue when commodity rates are paid for labor and tax items.

Chapter XVII

FOREIGN COPPER COSTS

It is evident from the areal distribution of foreign copper ore reserves as set out in Table 6, that the major competition confronting the domestic copper miner will come from the Chilean and central African areas.

The competition from the remainder of the world is so small percentagely that it need not be discussed at this time.

The competition from the Canadian area is formidable, and of the 9.5 per cent shown in Table 6, we find that 86 per cent thereof is owned by the International Nickel Co., a Canadian corporation. The International Nickel Co. ore reserve, according to Table 5, averages 3 per cent copper. This ore reserve likewise averages nearly 3 per cent nickel. The nickel value per ore ton averages several times the copper value. In other words, the associated copper can be deemed a by-product, and there is ample evidence available showing that International Nickel Co. can market their refined copper at New York City and domestic lake ports at a cost not exceeding 6 cents per pound.

Ninety per cent of the competitive foreign copper, as shown in Table 6, is about equally divided between the Chilean and central African areas. Consequently it is from these two ore areas, which average 3.34 per cent copper and which contain 3.3 times more copper than our domestic ore reserves and with an ore grade nearly three times our domestic grade, that we shall receive our major competition.

CHILEAN COPPER COSTS

We find from Table 5 that about 80 per cent of the Chilean ore reserves as set out in Table 6, are owned by Chile Copper Co., about 15 per cent by Braden Copper Co. and about 5 per cent by Andes Copper Co.

It is estimated that the operating cost of refined copper laid down at New York from the Braden mine will not exceed 7½ cents per pound. The operating cost of refined copper laid down at New York from the Andes Mine will not exceed 7 cents per pound. It is true that by the time the foregoing operating costs are swelled by nebulous interest, tax, depreciation and depletion items the stated costs aggregate nearly 50 per cent higher. However, the competitive cost will be assumed to be the operating cost of these foreign copper producers, for this cost is the one to which these foreign producers can and will recede until they secure absolute control of the domestic copper market.

CHILE COPPER CO. COSTS

As stated aforegoing, Chile Copper Co. owns about 80 per cent of the Chilean ore reserves as set out in Table 6. A detailed discussion of said company's costs will closely approximate the competitive menace that the domestic copper miner does now feel and expects to receive in the years to come from the Chilean ore area.

As set out in Table 5, we note that Chile Copper Co. ore reserves aggregate 1,000,259,912 tons of ore, with an average grade of 2.71

per cent copper and embrace about 54,300,000,000 pounds of copper. The foregoing ore reserve by itself is not alone 1.3 times greater than our total domestic copper poundage reserve as shown in Table 4, but in addition the company ore grade is 2.3 times our domestic ore grade.

In Skinner and Plate's Mining Costs of the World, we find the following cost estimates made by Mr. Pope Yeatman, Consulting Engineer of Chile Copper Co.

The following costs are based on a mine output of 10,000 tons per day, and an extraction of 90 per cent.

TABLE 7A.—*Chile Copper Co. costs*

Division	1.50 per cent ore cost—		2.75 per cent ore cost—	
	Ore ton	Pound copper	Ore ton	Pound copper
		Cents		*Cents*
Mining	$0.400	1.481	$0.400	0.808
Transportation—Mine to mill	.100	.370	.100	.202
Crushing and delivering	.200	.741	.200	.404
Leaching	.170	.630	.200	.404
Add 10 per cent to leaching for general superintendence, taxes, etc	.017	.063	.020	.040
Electrolytic precipitation ($34.59 per ton of 2,000 pounds)	.467	1.729	.856	1.729
Add 10 per cent to electrolytic precipitation for general superintendence, taxes, etc	.047	.173	.086	.173
Total operating cost	1.401	5.187	1.862	3.760
Transportation to port (13½ shillings per metric ton at 24.3 cents equals $2.974 per ton of 2,000 pounds)	.040	.149	.074	.149
Port charges (same as Braden is paying $1.19 per ton of 2,000 pounds metallic copper)	.016	.059	.029	.059
Insurance on copper in transit (five-eighths of 1 per cent of value, at 16-cent copper equals $2 per ton of 2,000 pounds plus 10-cent weigher's fee in Europe equals $2.10)	.028	.105	.052	.105
Freight to Hamburg (45 shillings per long ton, at 24.3 cents equals $9.76 per ton of 2,000 pounds metallic copper)	.132	.488	.242	.488
Selling commission (1 per cent of sales, using 16-cent copper)	.043	.160	.079	.160
	1.660	6.148	2.338	4.721
Amortization, at 10 per cent	.166	.614	.233	.474
Total cost	1.826	6.762	2.571	5.195

We also find in the Mines Handbook for 1918 the following estimates made by Mr. Pope Yeatman of cost per ton of Chile Copper Co., on a basis of 10,000 tons per day of 2 per cent ore, as follows:

TABLE 8.—*Chile Copper Co. costs*

Mining and transportation to mill	$0.50
Crushing, leaching, and electrolytic precipitation	1.086
Transport of copper to port, port charges, and insurance	.115
Freight to Europe and selling commission	.214
Depreciation and contingencies	.191
	2.106

The foregoing per ton cost divided by 36 pounds of copper saved, equals a per pound cost of 5.85 cents.

It will be seen that the foregoing per pound costs for a 1.5 per cent, 2 per cent, and a 2.75 per cent ore, covers all operating costs, likewise taxes and amortization.

With all these items cared for, it estimated that the per pound cost of electrolytic copper laid down in Hamburg (likewise New York) for a 2 per cent Chile Copper Co. or would equal 5.85 cents; for a 2.75 per cent ore, about the average grade of the deposit, the cost equals 5.215 cents.

We further find on page 50, Senate Document No. 153, Sixty-ninth Congress, first session, where Senator Ralph H. Cameron demonstrates that Chile Copper Co., mining a 2.12 per cent ore, and using the proportionately high New Cornelia cost factors, should deliver refined copper at New York at a cost of 4.797 cents per pound, exclusive of taxes. Adding 10 per cent for taxes and superintendence, likewise 10 per cent for amortization, we have a total cost of 5.756 cents per pound of copper delivered at New York.

The foregoing estimates were based on a 10,000-ton per day plant capacity. At the present time, Chile Copper Co. can and has mined and leached 40,000 tons of ore per day. It has likewise lowered the foregoing costs very materially in recent years through improvements in practice, both mining and metallurgical, resulting in lower costs than were expected.

According to Mr. H. C. Bellinger, vice president, Chile Copper Co. (see August 24, 1929, issue Engineering and Mining Journal), during the early years of their mine operations, "the 'cut-off' between ore and waste was fixed at 0.7 per cent copper, and the ore reserve estimates were based on that 'cut-off.' Improvements in practice, both mining and metallurgical, resulting in lower costs than were expected, have allowed a very material reduction in this 'cut-off' grade. The lowest grade of material that can be treated without loss is about 0.23 per cent copper based on a 13-cent copper sales price, and provided such material must be removed in mining operations."

We find that a 0.23 per cent ore contains 4.6 pounds of copper. With a 10 per cent metallurgical loss we have 4.14 pounds of copper saved at 13 cents equals 53.82 cents per ore ton treated. In other words, this sum of 53.82 cents pays for the crushing and delivering of the ore to leaching plant, leaching the ore, electrically precipitating the copper contained therein, likewise embraces the transportation, port charges, insurance, freight, and selling commission on the refined Chilean copper ingot delivered at either New York, San Francisco, or European ports. The foregoing will emphasize the degree of efficiency prevailing within this marvelous foreign ore reserve.

There is no question but that Chile Copper Co. can deliver refined copper at New York City at a price not exceeding 6 cents per pound, said price embodying a 10 per cent provision for superintendence and taxes and a like percentage for amortization.

The rapacity of the Chileans as displayed during their decades of nitrate tax acquisitiveness will undoubtedly urge them to insist on securing the maximum tax perquisits out of the world's largest copper ore body. However, this "buccaneering" degree of excessive Chilean taxation is not properly a cost charge against the copper produced; it is levied on the theory that the Government is entitled to all the industry can pay. The Chileans export nearly every pound of copper they produce, hence this extortionate tax levy must be borne by the foreign consumer. This degree of taxation will advance whenever the copper market is high and recede whenever it is low. In its end

effect it does now operate as an export tax, and such a tax will undoubtedly be levied just as soon as the Chilean Government is certain that their export copper is in rigid control of our domestic market.

If anyone disputes the statement that refined Chile Copper Co. copper can not be delivered at New York City at a cost price, including taxes and amortization, not exceeding 6 cents per pound, they should be made to produce indisputable evidence in order to controvert the itemized cost estimates made by Chile Copper Co. engineers as submitted aforegoing.

CENTRAL AFRICA COPPER COSTS

We ascertain from Table 6 that the central African ore area has 731,873,000 tons of 4.26 per cent copper ore containing 62,427,603,800 pounds of copper. This ore reserve in itself is one and one-half times larger than our domestic copper reserve as set out in Table 4, likewise its ore grade is three and one-half times greater than our domestic ore grade.

From Table 5 we find that of this central Africa copper poundage 11,022,507,800 pounds lies within the Katanga District and 51,405,096,000 pounds within the adjacent northern Rhodesia ore area, which is an extension of the Katanga mineralized zone.

The copper poundage within the Katanga District, Belgian Congo, is controlled by a Belgian company, 60 per cent of its stock being owned by Belgians and 40 per cent by an English corporation.

The copper poundage within the northern Rhodesia area is virtually all owned by four English companies, in which Americans own large stock equities.

KATANGA COPPER POUNDAGE

The copper poundage within the Katanga District is controlled by the Union Miniere du Haut-Katanga Co. and equals 11,022,507,800 pounds contained within 85,979,000 tons of ore, averaging 6.41 per cent copper.

We find within the Copper Handbook for 1909 where Sir Robert Williams estimated the cost of production and delivery of Katanga copper at £25 per long ton of finished copper. This equals 5.45 cents per pound. We further note that Mr. John R. Farrell, consulting engineer, states that the cost of finished copper in Katanga would equal £12 per long ton. This equals 2.6 cents per pound of copper.

We further note in the Mines Handbook for 1918, when the company was only producing 60,000,000 pounds of copper yearly, the reported cost was £28 per metric ton, at the works, or about 6.2 cents per pound.

We also find in an article by Mr. Archer E. Wheeler, consulting engineer, Union Miniere du Haut-Katanga, appearing in the February 24, 1924, issue of Mining and Metallurgy, that a 3 per cent Katanga ore can be profitably leached with a 97 per cent extraction. With copper at 13 cents, the prevailing price for 1924, and disregarding profits, we find through using the foregoing cost factors that copper from the 6.41 per cent average Katanga ore can be delivered at New York City at a cost price of 5.91 cents per pound.

The writer submits a cost detail for Katanga copper based partially on the Chile Copper Co. cost factors set out in Table 7. Katanga ore averaging 6.41 per cent copper equals 128.2 pounds of copper per ore ton. Assuming a loss of 10 per cent, we have 115.4 pounds of copper saved. Daily leaching capacity equals 10,000 tons.

TABLE 9.—*Katanga leaching costs based partially on cost data set out in Table 7*

	Ore ton	Pound copper
		Cents
Mining and transportation to mill	$0.60	0.522
Crushing, leaching, and electrolytic precipitation, including 10 per cent for superintendence and taxes	3.50	3.043
	4.10	3.565
Port charges and insurance		.164
Transportation of copper to Benguela at 0.87 cent per pound (same as Elizabethville to Beira rate) equals 2,000 times 0.87 cent equals $17.40 per ton		.870
Freight Benguela to New York or European ports equals $6 per 2,000 pounds		.300
Selling commission		.160
		5.059
Amortization at 10 per cent		.506
Total cost		5.565

As shown in Table 9, the cost of leaching the average Katanga ore based on greatly increased cost factors above those set out in Table 7 and using the present high freight cost from Elizabethville to Beira for refined copper exports, we obtain an average cost of 5.565 cents per pound. This cost includes 10 per cent for superintendence and taxes; also 10 per cent for amortization.

The costs set out in Table 9 are excessive in the writer's opinion. The Union Miniere has electrified its mine-shovel operation, and there is no reason why their shovel costs should exceed 35 cents per ore ton. It is likewise believed that with the cheap hydroelectric power available the crushing, leaching, and electrolytic precipitation costs should not exceed $2.50 per ore ton. The distance from Elizabethville to Benguela equals about 1,290 miles. The average rate per ton-mile haul for domestic copper equals 0.53 cent, consequently copper should be transported to Benguela for 0.340 cent per pound of copper instead of the 0.870 cent Beira rate used in said cost compilation. If these lower estimates are used, we find that refined copper can be produced in the Katanga district for 2.522 cents per pound. This cost about equals Mr. Farrell's estimate mentioned aforegoing. We also find by using these lower cost estimates that it is possible for refined Katanga copper to be delivered at New York or any European port at a cost of about 3.835 cents per pound.

There is a tendency on the part of the controllers of the Katanga production to organize subsidiaries which collect a cost tribute over and above the real value of the service rendered the Union Miniere. If this practice is carried to great extremes, it is quite evident that underlying supply, transportation, power, and labor costs will greatly exceed the estimates submitted aforegoing.

The writer is firmly of the opinion that refined Katanga copper can be laid down at any world port at a cost not to exceed 6 cents per pound.

NORTHERN RHODESIA COPPER COSTS

We find from Table 5 and Table 6 that the Northern Rhodesia copper reserve equals 51,405,096,000 pounds, contained within 645,894,000 tons of ore, averaging 3.98 per cent copper. This copper poundage is about 1.3 times larger than our domestic copper reserve and its ore grade 3.3 times greater than the domestic ore grade.

It is quite evident that the cost of copper from this area, in view of the exceptionally high grade mill ore developed, will be very low. Generalized statements have been made indicating that northern Rhodesia will be able to market refined copper at a competitive cost equal to the Katanga and Chile Copper Co. costs. The published statements issued by Northern Rhodesia Copper Co. officials indicate a per pound cost between 7 and 8 cents.

In view of the extremely high grade copper concentrating ore developed and its enormous copper poundage, plus cheap hydroelectric power and minimum labor costs, the writer is of the opinion that Northern Rhodesia copper costs will be lower than those from any competing area.

The writer has compiled an estimated average cost for the average 3.98 per cent Rhodesian ore aforementioned. It is assumed that mill capacity equals 10,000 tons and extraction equals 90 per cent, and smelter extraction equals 95 per cent; that the concentrate will average 55 per cent copper. Consequently, the yield of copper per ton of ore equals 68 pounds and the average ratio of concentration equals 16.2 into 1.

TABLE 10.—*Northern Rhodesia estimated copper costs*

	Per ore ton	Per pound copper
	Dollars	*Cents*
Mining and transportation	0.90	1.32
Milling	.50	.73
Smelting at $7.50 per ton of concentrates (16.2 into 1)	.47	.69
Converting at $7.50 per ton blister	.26	.38
Refining at $15 per ton blister	.51	.75
Freight to Beira, per ton refined copper equals £4 per long ton	.59	.87
Port charges and insurance	.11	.16
Freight Beira to New York, at $6.50 per short ton of refined copper	.22	.33
Selling commission	.11	.16
Total	3.67	5.39

As shown in Table 10, the writer believes that Northern Rhodesia refined copper can be laid down at New York or any other world port at a cost of 5.39 cents per pound exclusive of royalties and taxes. The present rail cost per pound of copper from the ore area to Beira is 0.53 cents per pound greater than it should be, when comparing the existent per ton-mile rail rate with the United States rate. It seems absurd that this excessive rate should be paid to Beira, a point nearly 3,000 miles farther from European and domestic ports than Benguela. It appears, however, that the controlling forces believe that Northern Rhodesia copper costs can easily include these subversive economic cost factors and still meet any and all exterior competition.

The question of royalties and taxes is an elastic one during the era of initial competition. The nationals in charge of the Northern Rhodesia copper poundage are the world's shrewdest traders, and it is certain that the receding competitive point for marketing their copper will be less than 6 cents per pound until the foreign Chile-Katanga-Rhodesian copper cartel effectually control our domestic market.

The writer is certain that Northern Rhodesia refined copper can be laid down in New York at a cost not exceeding 6 cents per pound. If this cost is questioned, it will be most interesting to note the detailed cost items which may be submitted by its critics.

Chapter XVIII

COPPER TARIFF ARGUMENT

GENERAL STATEMENT

The detailed copper tariff information submitted aforegoing plus the factors pertaining to copper production, ore reserves, imports and exports, prices and costs, should furnish sufficient economic data to approximate the degree of tariff protection deemed necessary to rehabilitate and maintain continuously our domestic copper mining industry.

The writer is fully aware that there is no rigid tariff formula that can be used to evaluate the tariff equities due the domestic copper miner. The whole past domestic history of tariff making emphasizes the empirical methods used to fix ad valorem and specific duty rates. From the very beginning of the first tariff act of 1789 down to the 1930 act, only the most generalized and approximate details have been available as to foreign competitive costs.

The real essence of domestic protection has always been that the domestic producer of a vitally essential domestic product is entitled to the home market for disposal of his product; this domestic sale control is accorded whether there is an export surplus available or not.

The domestic producer of an essential product has invariably been accorded rigid protection; has generally been granted a degree of protection sufficient to exclude any and all foreign products from sale control of his domestic market. The domestic producer has universally demanded that he be accorded as a minimum the same cost control of the domestic market as that enjoyed by the imported article. The resultant tariff accorded has usually gone way beyond that degree of protection as evidenced by the lack of competitive imports.

The real economic policy of our country has been and should always be to export the manufactured article, not the raw metal product. In so doing, we utilize the maximum amount possible of our domestic labor and secure the greatest benefit from our irreplacable raw metal products before they are exported. The only rigid highly profitable economic market for our raw metal product is within our domestic industrial sphere, selling same there under the most equitable competitive conditions.

It is absurd to contend that the profitable end stage of domestic production is one of volume rather than of value. The copper miner

is vitally interested in the commodity price of copper irrespective of the poundage he may sell.

Domestic overproduction of copper means a domestic surplus that must be disposed of abroad at whatever price obtainable.

It is essential that domestic production be rigidly synchronized with domestic consumptive demand when rigid protection prevails, in order to secure a commodity price for copper. In doing so, the depletion of an irreplaceable domestic resource will afford the maximum compensation possible to all the human and community factors involved.

Our past economic history also emphasizes that rigid control of the domestic market by the domestic producers of an essential product has invariably cheapened the commodity cost of same and prevented extortionate charges by foreigners whenever they controlled our domestic requirements. Our domestic producers realize full well that they can not increase the price of an article in the absence of domestic demand, and whenever the domestic demand increases, new and additional domestic competitive forces will arise to supply same.

Present-day economic as well as political intelligence decrees that protection should never be removed if in so doing it jeopardizes the maintenance of an essential domestic industry and its dependent labor. If by inadvertence or through malicious internationalistic greed influences or due to lack of economic foresight, such an industry and its dependent labor are without protection and are being destroyed by foreign imports, instant protection should again be accorded, thereby removing the destructive factor.

However, the real doctrine of domestic protection is fully set out in the 1928 political platforms of the two major parties. Excerpts therefrom will be submitted denoting that the essence of the foregoing generalized protective statements is fully sustained by the following quotations.

From 1928 Democratic platform:

> Actual difference between the cost of production at home and abroad, with adequate safeguard for the wage of the American laborer, must be the extreme measure of every tariff rate. Equitable distribution of the benefits and burdens of the tariffs among all.

From 1928 Republican platform:

> However, we realize there are certain industries which can not now successfully compete with foreign producers because of lower foreign wages and a lower cost of living abroad, and we pledge the next Republican Congress to an examination, and, where necessary, a revision, of these schedules to the end that American labor in these industries may again command the home market, may maintain its standard of living, and may count upon steady employment in its accustomed field.

Attention will be directed to the basic fact that outside of capital reimbursement, the cost of a product is an aggregate of labor, supply, transportation, and tax items. The last three items are inelastic; they must be met or productive activity ceases. In consequence, wherever vicious competitive conditions exist, labor, rather than accept complete cessation of work—complete starvation, is compelled to accept whatever wage his industry can afford. It is therefore rigidly essential that domestic industry be amply protected in order that its dependent labor be generously cared for. The protection of labor is the plea detail of the foregoing political platform excerpts,

an expressed national desire to render the most minute aid to secure for domestic labor control of the home market, to enable labor to enjoy an American standard of living, and be assured of steady employment.

COMPETITIVE FACTORS

In order to again secure protection for the domestic copper mining industry, it is essential to demonstrate the necessity therefor through the presentation of destructive foreign cost factors, whereupon it is believed that legislative equity will be accorded forthwith.

The writer has endeavored to assemble facts pertaining to the industry covering every phase which might have any bearing whatsoever on the subject. The writer realizes full well that his access to true foreign copper cost records is as limited and circumscribed as that usually besetting the domestic investigator when seeking accurate cost information within foreign competitive areas. The producer of foreign competitive products for our domestic market, whether he be a foreigner or a domestic internationalist, can not be made to disclose rigid and accurate cost information. The only solution for securing near and accurate cost data as to foreign products is to analyze the factors involved and reach a decision independent and irrespective of what said foreign agencies may offer as evidence in connection therewith.

It is well known that the foreign producer of competitive imports can not be relied upon to furnish exact, detailed cost data. Neither should the statement of the domestic internationalist be accepted unconditionally when he presents data purporting to represent true foreign costs.

It was a coterie of Americans, after securing control of certain Canadian copper and nickel deposits in 1886, who through specious, sleek, and sleazy pleas finally secured the near destruction of all copper ingot duties as of 1890. The writer is firmly convinced that prototypes of these 40-year-ago domestic internationalists are now suavely, persistently and with the same degree of calloused cunning, trying to convey the impression that the present-day competition from Canada, Chile, and Africa is inconsequential.

The domestic copper miner realizes full well the dangerous tariff intrigues of the present day domestic internationalist, for it was this type, a garner of profits irrespective of national origin and human oppression, who placed the copper miner's product on the free list 40 years ago and has kept it there ever since.

These domestic internationalists now control the domestic copper mining industry and its ore reserves, also the foreign copper mining industry and its ore reserves. A selective right of domestic or duty-free foreign-mined copper for their highly protected domestic copper manufacturing industry is a most menacing threat directed against the domestic copper mining industry. The tendency trend of these internationalists is to persistently curtail their high cost domestic copper output, yet continuously increase the output of their low cost foreign production. They can loftily inform the Chileans and Rhodesians that if they interfere unduly with their monopolistic copper prequisites, they will forthwith mine within their United States ore areas. Conversely, if these internationalists feel that our domestic citizenship, institutions, communities, States and Govern-

ment oppress them unduly, they can contemptuously disregard same by securing the total copper requirements for their excessively protected domestic manufacturing plants from their foreign slave, peon, and pauper labor ore estates. The writer submits that such a right of selection of duty-free foreign-mined copper is most destructive of American labor, industry, institutions, and communities, and a parallel thereto can not be found within any other of the thousands of major highly protected domestic manufacturing industries.

The writer is desirous of calling attention to the vertical integration or mine-to-consumer production policy of the United States Steel Corporation when formed by its domestic banking sponsor 30 years ago. Said corporation, from its very inception, has always secured its total iron requirements from domestic ore areas, consequently aided in developing and increasing our domestic iron ore reserves, likewise maintained American citizenship, communities and industry.

The vertical integration or mine-to-consumer policy indulged in by our leading highly protected domestic copper manufacturing corporation, is to ship in free of duty most of its copper requirements from the oppressed labor areas of Chile and Mexico. A vertical integration practice of this type is distinctly un-American and is not permitted to exist within any other major domestic industry.

The constant and unusual tariff immunity so solicitously accorded this domestic distributor of Chilean and Mexican copper the past decade has not alone emboldened it to constantly increase its destructive copper importations, but seemingly generated a precedent now being eagerly followed by domestic banking agencies exploiting the huge African copper reserves.

The writer submits that so far as this copper-importing activity is concerned, even though it is carried on decorously, quietly, yet with machiavellian political and publicity thoroughness, likewise affording excessive profits to the domestic copper manufacturer, its destructive effect is just the same as against the livelihood of the domestic copper miner as if he were directly replaced by the African negro and the Chilean peon.

This form of mine-to-consumer integration is viciously destructive of American labor and American communities and ample American copper ore reserves for national defense purposes. It is not allowed in any of the thousands of rigidly protected domestic industries, and it will not be tolerated or allowed to exist within the partially protected domestic copper industry whenever the constrictive practices of these domestic internationalists are exposed.

It is likewise interesting to note the statistical diversions introduced by the domestic internationalist. He initiated the "North and South America" consolidated copper output, import and export tabulations, just as if these had any more economic importance domestically than consolidated nitrate returns or the pulped returns of any and all other domestic and foreign products. It is not alone nearly impossible to ascertain domestic production and cost factors of the domestic copper output, but also of the foreign cost and output factors controlled by these domestic internationalists when reviewing their ambiguous and macerated returns.

These domestic internationalists, however, exhibit an ecstasy really bacchanalian when they endeavor to hurdle the probable

economic domestic copper ingot tariff barrier through the medium of hypothetical, nebulous, and uncertain future copper consumption statistics. They have the temerity and calloused effrontery to insist that the livelihood of the domestic copper miner and hundreds of thousands of dependent citizens, likewise our vitally essential functioning copper mining industry, should rely on the serpentine sinuosity of future theoretical copper-consumption curve trajectories spiraling out of the slave compounds of Africa and the repressed Indian areas of South America.

The unusual and un-American congressional tariff immunity accorded the domestic internationalist the past decade in connection with his huge importations of foreign pauper-produced copper has given him the brazen courage to attack the domestic tariff structure as a whole. These domestic internationalists have been exporting billions of dollars worth of domestic credits for several years past; and in order to secure duty-free entrance of their foreign-controlled products, are now propagandizing in a most thorough and calloused manner to weaken and destroy virtually all domestic tariff barriers. Evidently these short-sighted domestic internationalists do not fear the entrance of Jacobinic and Communistic ideas as to property rights and financiers along with the flood of pauper-labor products they are trying to force past our protective boundary.

The destruction of protective equities 40 years ago, after nearly a half century of protection, was brutal compensation for the copper miner who had revolutionized the development, mining, milling, and metallurgical details of our domestic copper mining industry during this era of protection. Protection within the domestic copper mining industry should have been maintained continuously, just as it has been maintained within the iron, lead, zinc, and countless other domestic industries during said years. The domestic copper miner should have had rigid control of the domestic market for disposal of his product during all these years, and if this essential equity had not been taken from him, his industrial compensation would not alone have been vastly greater, but he would have avoided the economic disaster now confronting him.

The destructive competition facing the domestic copper miner's product, which is the only domestically produced nonferrous metal within the free list, is not alone one of volume, but of cost as well.

As shown in the ore-reserve tables submitted herein, the foreign copper poundage reserves contain 3.7 times our poundage, and their ore grade is 2.6 times richer than our domestic copper ore reserve grade.

Our domestic iron reserve is far greater and richer than any foreign competitive iron reserve. Furthermore, due to the low cost of open pit, shovel mining, most of said domestic iron poundage, plus the low volume unit value of iron, makes it possible for our domestic iron miner to meet domestically and abroad any and all foreign competition, whenever he so desires.

The value of copper produced domestically is only exceeded by the value of one other domestically produced metal, namely, pig iron. And as herein shown the value of domestic copper produced is greater than the combined value of all other domestically produced nonprecious metals except iron. Consequently, the preeminent economic metal value domestically of unprotected copper produced is only exceeded by the colossally valuable protected iron product.

Our domestic copper reserve is much inferior proportionately from a foreign competitive standpoint than our domestic iron reserve. Our copper reserve with its one-third poundage and grade value, compared with the foreign copper reserve, can not even meet foreign competition within the domestic, saying nothing about the foreign market.

If our domestic pig iron and steel billet industries, with their higher ore grade, lower production cost and a larger volume of iron poundage reserve than that possessed by their foreign competitor, are the recipients of rigid protection, it is a certainty that the domestic copper miner with his proportionally small volume and inferior grade of copper poundage reserve, is much more entitled to adequate protection.

There should be no question raised, in view of the evidence submitted herein, as to the far greater foreign copper poundage and higher ore grade, when compared with the domestic factors of poundage and grade. The real difference of opinion will undoubtedly be centered on the question of cost variation between the foreign and domestic product.

COST FACTORS

The writer has shown herein that it costs about 12 cents per pound to produce one-half of our domestic copper and about a cent and one-half less per pound for our total domestic production.

The domestic copper-mining industry is entitled to 100 per cent protection; a full measure thereof—not a fractional degree of protection, which would only benefit the low-cost producers and destroy one-half of the higher cost domestic production.

Our tariff history is replete with innumerable examples where duties were laid to protect the whole industry, not only a portion thereof. In the steel industry, one-half the production can average three times the profit when compared to the remaining half; yet duties have been accorded to protect the industry as a whole. We find the greatest difference in production costs, from widely scattered domestic areas, when analyzing the cost factors submitted during tariff hearings on lead, zinc, wool, cattle, and hundreds of other domestic industries; yet Congress endeavored to accord protection to enable each individual industry to function as a unit, not a remnant thereof.

It is undeniable that the same degree of legislative equity should be accorded the domestic copper mining industry; should afford protection up to 12 cents per pound, thereby permitting the industry to retain its entity and provide the total copper requirements of our country.

The writer has also shown herein that the foreign competitive cost of copper laid down at New York or any domestic port will not exceed 6 cents per pound. It is believed that this foreign competitive cost has as accurate a basing value for tariff differential purposes as any that can be ascertained. It is notoriously evident that the slave labor of Central Africa and the peon labor of Chile averages only from one-twentieth to one-fifth the daily wage of the domestic copper miner. Furthermore, the equivalent rail-haul cost to New York for this foreign copper poundage is only one-half the equivalent haulage cost of our domestic poundage. In addition, the foreign copper producer can buy all his supplies in the low-cost foreign market, while the

domestic copper producer must pay the commodity price for supplies prevailing within our highly protected domestic market. Ample evidence exists that the foreign nationals in control of this competitive poundage will waive tax phases until they secure monopolistic control of our domestic copper market. And in addition to all the foregoing destructive cost factors, the foreigners' ore volume and grade is about three times greater than our domestic copper reserve factors. Under such cost factor circumstances, even without the detailed foreign copper costs submitted herein by the writer, it is quite evident that foreign copper can be laid down domestically at unbelievably low costs, much lower, in fact, than the 6 cents per pound cited aforegoing.

ESSENTIAL TARIFF PROTECTION

The difference between the aforegoing discussed domestic and foreign copper cost factors equals 6 cents per pound.

In order to sell the domestic electrolytic copper ingot within the domestic market it must be accorded a specific duty of 6 cents per pound as against the foreign ingot. This degree of protection only permits the domestic ingot to meet the foreign ingot competitively within its home market. If the American doctrine, "that a domestic product should control the domestic market" is applied, then the duty should exceed the bare cost differential of 6 cents per pound.

Under Copper Prices, Chapter XV, we find that the average price of copper for the period 1903–1930, said period embracing 81.98 per cent of all the domestic copper mined 1845–1930, equals 16.6 cents per pound; consequently, a 6-cent per pound ingot tariff equals 36.15 per cent ad valorem based on the foregoing period price. We further note that the average price of copper for the period 1915–1930, said period embracing 55 per cent of all the domestic copper mined 1845–1930, equals 17.5 cents per pound; therefore a 6-cent ingot tariff will equal 34.29 per cent ad valorem, based on said period price. We likewise find that the average price of copper for the period 1919–1930, said period covering 39 per cent of all the copper mined 1845–1930, equals 14.9 cents per pound; a 6-cent ingot tariff will therefore equal 40.27 per cent ad valorem based on the price for said period.

We find that the average ad valorem rate, for metals and manufactures, schedule 3, Smoot-Hawley Act of 1930, equals 35.01 per cent. It will be seen when comparing the average schedule 3 rate with the average ad valorem rates of 36.15 per cent and 34.29 per cent, respectively, aforegoing, that they are about equal. The ad valorem rate for the 14.9 cents price is not comparable, for the reason said price is way below its true commodity rate as heretofore explained.

Essential copper protection, however, can not be stated with percentage exactitude. The true minimum measure of an ingot duty rate is whether it will allow the domestic ingot to survive industrially—permit it to meet the foreign ingot competitively within the home market. This degree of protection is certainly the minimum, and a 6-cent ingot tariff will only accord such protection.

If certain and rigid control of the home market is to be given the domestic copper producer for disposal of his product, plus a reasonable profit—such protection has been accorded innumerable other domestic producers of the past and present—it is essential that the ingot duty rate be considerably in excess of 6 cents per pound.

FUTURE POSSIBILITIES

The basic purpose of a rigid and adequate copper ingot tariff is to care for the human factors, domestic institutions, and industrial agencies dependent on the continued and uninterrupted domestic production of copper; also to constantly maintain an efficient functioning domestic copper-mining industry, from ore to refined ingot stage, in order to promptly meet all domestic requirements during war as well as peace; likewise to carry on persistent exploratory efforts so that ample domestic copper ore reserves shall be available during all the years to come.

The whole tariff history of our country emphasizes that equitable protection has resulted in maintaining a uniformly high domestic wage detail, which in turn has builded and supported our domestic institutions and unrivaled industrial organizations. The economic supremacy of our country rests foundationally upon rigid tariff protection, not upon the uncertain and vacillating sands of free tradeism. Consequently, an adequate copper ingot tariff can not result other than beneficially to all the human factors involved.

It is evident that an efficient and continuously functioning domestic copper-mining industry is vitally essential during war, which in turn is dependent on the continuous maintenance of the industry during the intervening years of peace. It requires a vast sum and years of time to bring a domestic copper mining industrial unit from the exploratory to the refined ingot output stage.

It is obvious that from a national-defense standpoint alone it is rigidly essential that our domestic copper-mining industry be able to function maximumly. Furthermore, the domestic industry will furnish copper at fair commodity prices and prevent extortion on the part of foreign copper producers.

In view of the foregoing, there is no question but that a continuing domestic copper-mining industry is a national requisite, and this can not be maintained without ample and rigid tariff protection.

One of the most important phases within our domestic copper-mining industry is to always maintain an ample poundage of copper within our known ore reserves.

At the present time our domestic copper ore reserves can care for 20 years of average domestic requirements. Ten years ago our ore reserves were only about one-half the present known domestic copper poundage. The intervening decade ore reserve increase was due to lowered domestic mining, milling, and metallurgic costs, and not to the discovery of new poundages within new ore areas.

We ascertain that a decade ago known domestic ore reserves embraced about 20,000,000000, pounds of copper with an average ore grade of 1.44 per cent. At the present time we have about 40,000,000,000 pounds of copper within our domestic reserve with a grade of 1.19 per cent. The copper poundage has doubled during the decade, but the ore grade was lowered 17.3 per cent.

The doubling of our domestic copper ore reserves the past decade through lowered operating costs solely, is most exceptional, and it is not expected that the increase of domestic ore reserves within present operating districts, through lowered costs alone, will show any appreciable future accretions.

We note that the domestic copper reserve poundage set out in Table 4 lies within 13 of our domestic copper-mining districts. According to Table 1A, the remaining 204 domestic copper-mining districts failed to report any developed ore.

It is reasonable to assume that if 6 per cent of our known domestic copper-producing districts have already developed a 20-year domestic supply of copper, the remaining 94 per cent under adequate tariff protection should be able to develop vast additional ore reserves.

These remaining 204 virtually unexplored domestic copper-mining districts, scattered through 19 of our domestic States, have never been explored from the present day copper efficiency operating cost standpoint. Neither can these 204 copper districts ever be explored from a commodity copper price standpoint until adequate tariff protection is accorded. All those districts will be developed down to the present commercial limit of one-half of 1 per cent copper ore very quickly after the laying of duties to "accord the domestic market to the domestic producer of copper."

According adequate protection to the domestic copper-mining industry means the salvaging of countless billions of pounds of copper for ages to come within our hundreds of known domestic copper-mining districts. Rigid protection does now permit the salvaging of vast quantities of iron, lead, and zinc within these rigidly protected domestic mining industries, just as tariff protection does now operate within nearly all domestic industries to salvage products that would be termed industrial waste under free-trade conditions.

TARIFF PLEA

It is strange indeed that hundreds of thousands of citizens to be found within the 217 domestic copper-producing districts scattered throughout 19 of our States, must stand before the legislative bar pleading for adequate protection for the maintenance of their dependent industry within our high and universally protected country.

It would be stranger still if legislative factors failed to note the economic misery now besetting the domestic copper miner and the crushing hopelessness of his economic plight under continued free-trade conditions, without according immediate legislative relief.

There is not a product mined, grown, or manufactured within our domestic realm that has been so atrociously treated from a tariff standpoint as the copper ingot the past decade. The copper ingot has been deliberately left on the free list the past decade in violation of the domestic economic precept that a vitally important domestic product is entitled to a commodity price and control of the home market.

Domestic internationalists in control of our excessively highly protected domestic copper manufacturing industry have been the beneficiaries of this legislative neglect to accord protection to the domestic ingot. These internationalists are shipping in now, and have for the past decade, huge amounts of copper from their low-cost foreign copper estates. It is certain that these internationalists will continue this un-American practice until stopped by Congress.

The domestic copper manufacturer is the recipient of rigid protection on all the products he manufacturers. He is receiving greater protection proportionately to-day than he ever received in the past.

We note in Table 2 that the manufacturer has a 45 per cent ad valorem rate as against manufactures not specially provided for. It will be seen that this rate prevailed whether the copper ingot was on the free list as from 1894 to date, or protected by a 5-cent duty as of 1869–1883, or a 1.25-cent duty from 1890–1894. The copper manufacturer also has a duty rate up to 11 cents per pound as against imported brazed copper tubes, likewise other rigidly protective specific rates as set out in paragraph 381, Smoot-Hawley Tariff Act of 1930.

The copper manufacturer has been accorded the domestic market for disposal of his product. The manufacturer has rigid and absolute sale control of the domestic market, for there are practically no dutiable copper imports. The duties are so rigidly protective that virtually all foreign-manufactured products are excluded. We further find that even with all this rigid domestic protection the domestic manufacturer exports up to 15 per cent of his manufactured products.

The domestic copper miner's product, the highly manufactured electrolytic refined copper ingot, has been denied control of the home market, the result being an avalanche of copper imports from the four corners of the earth. Every slave, peon, and pauper labor copper ingot in the world seemingly has been dumped within the domestic market, compelling the domestic miner to meet this iniquitous economic competition or starve. We also find that the domestic copper miner exports less copper proportionately, as explained herein, than the domestic copper manufacturer.

Who other than a domestic internationalist and his minions would have the brazen effrontery to openly sponsor the un-American protective doctrine that the copper manufacturer is solely and alone entitled to rigid protection, but that the producer of his product, the copper miner, must be kept chained everlastingly within the competitive slave area of free tradism?

Congress not alone protected flour but also wheat; the garment, also wool; packed products, also cattle; steel articles, also the steel ingot; lead products, also lead; zinc articles, also zinc; aluminum products, likewise aluminum—and so on down through an unending list of comparisons emphasizing that the domestic manufactured article and its basic product are both rigidly protected.

Congress, during 1846 to 1894, a period of 44 years, also accorded protection that initiated and laid the broad economic foundation of our existing domestic copper-mining industry. All that Congress needs to do is to scan the resultant effects of the protection accorded within the foregoing near half-century period, to fully appreciate the marvelous efficacy of rigid tariff protection for the domestic copper miner's product.

The industrial momentum imparted during the long period of protection has carried the domestic copper-mining industry through its disastrous period of free tradism up until this time, up to the very tottering edge of a yawning abyss of hopelessness, despair, and utter ruin.

The copper miner of to-day pleads with Congress, as did his economic forebear of 70 years ago when confronted with utter ruin, to save him from the crushing competition of foreign slave, peon, and pauper-produced copper; to again grant the same degree of equitable

protection then accorded; pleads that Congress remove the free-trade shackles riveted on at the behest of internationalists 40 years ago.

When rigid protection is restored the domestic copper miner will begin to develop an unprecedented supply of copper within the 217 domestic copper-mining districts, all of which are virtually unexplored from the standpoint of modern operating efficiencies, and a commodity price for copper, amply sufficient to care for our vitally essential war and peace requirements of copper for centuries to come.

Rigid protection will accord a continuous and an American standard of living to hundreds of thousands of citizens dependent on the industry, likewise maintain existing American institutions and communities, and found new ones within the hundreds of copper districts scattered throughout 19 American States.

APPENDIX

WHEAT AND COPPER TARIFF DETAILS

Uninformed or biased critics of a probable reenacted copper tariff seemingly find a rare and prolonged degree of solace in comparing the domestic wheat and copper mining industries, stating that both have large exportable surpluses; consequently a protective tariff can not aid either.

In order to submit statistical data of basic comparative value, it was deemed essential that same should cover broad production period spans that in the aggregate truly represented average industrial factors existent during the economic life of the domestic wheat and copper mining industries.

WHEAT STATISTICS

Analyzing certain wheat statistics as outlined in the latest United States Department of Agriculture Year Books, we ascertain that the 26-year period, 1904–1929, embraces 55 per cent of all the wheat grown and 64 per cent of the farm value of wheat produced during the 64-year period, 1866–1929.

The 26-year period, 1904–1929, is an aggregate of the 4-year war period, 1915–1918, and 11 years prior, 1904–1914, and 11 years subsequent to the war, namely, 1919–1929. We find that there was grown during this 26-year period about 20,177,000,000 bushels of wheat, having a farm value of about $23,127,000,000, or $1.15 per bushel. We further note that 21.5 per cent of said period production was available for export.

It was likewise found during the 11-year period, 1904–1914, that the average farm value price of wheat equals 85.4 cents per bushel; furthermore than the average annual amount of wheat exported equals 128,000,000 bushels.

During the 4-year war period, 1915–1918, we find that the average farm value price of wheat equals $1.59 per bushel, and the average annual amount of wheat exported equals 198,000,000 bushels.

We further find for the 11-year postwar period, 1919–1929, that the average price of wheat equals $1.24 per bushel, and that the average annual amount of wheat exported equals 195,600,000 bushels. The foregoing factors compared with those for the pre-war period, 1904–1914, denote a 44.6 per cent increase in price per bushel of wheat and 52.8 per cent increase in average annual amount of wheat exported.

We likewise ascertained that during the post Fordney-McCumber 7-year tariff period, 1923–1929, the average price of wheat equaled $1.13 per bushel, and that the average annual amount of wheat exported equaled 166,300,000 bushels. Comparing the foregoing

factors with those of the 11-year pre-war period, 1904–1914, we find a 32.3 per cent increase in price per bushel of wheat and 30 per cent increase in the average annual amount of wheat exported.

The relationship and persistent increase of domestic wheat exports through the medium of production percentage export factors during the four periods 1904–1914, 1915–1918, 1919–1929, and 1923–1929, was found to equal 18.3, 24.6, 23.3, and 20.2 per cent, respectively, for said subdivisional wheat production periods.

COPPER STATISTICS

For comparative purposes, we shall use the equivalent time period 1904–1929 when analyzing certain tariff details of the domestic wheat and copper mining industries. We find that the domestic production of copper during the period 1904–1929 equals about 79 per cent of all the domestic copper mined during the 1845–1929 period.

Referring to copper statistics secured from Government publications, we find that for the 11-year pre-war period, 1904–1914, the weighted average annual price of copper equals 14.9 cents per pound and there was an annual average of 382,700,000 pounds of copper available for export.

During the 4-year war period, 1915–1918, we note that the weighted average annual price of copper equals 24 cents per pound, and there was an average annual of 359,600,000 pounds of copper available for export.

We further find that for the 11-year postwar period, 1919–1929, the weighted average annual price of copper is 15 cents per pound, and there was an average annual of 185,000,000 pounds of copper available for export. In comparing the foregoing factors with those for the pre-war 11-year period, 1904–1914, we find that whereas the price of copper is practically identical for the two periods, yet the postwar export rate is 52 per cent less than the pre-war period rate.

We also find that during the post Fordney-McCumber 7-year tariff period, 1923–1929, the weighted average annual price of copper equals 14.5 cents per pound, and there was an annual average of 223,000,000 pounds of copper available for export. A comparison of the foregoing factors with those for the pre-war 11-year period, 1904–1914, shows that the price of copper is 3 per cent less and the available export surplus 42 per cent less than the pre-war period rate.

In order to emphasize the rapid decrease in available copper percentage exports of domestic production, it may be stated that the amount of domestic copper available for export during the four periods 1904–1914, 1915–1918, 1919–1929, and 1923–1929 equals 37.2, 20.2, 12.7, and 13 per cent respectively of said production periods.

COMPARING WHEAT AND COPPER STATISTICS

Analyzing the foregoing wheat and copper prices and export factors aforesaid, we find that when comparing the postwar 11-year period 1919–1929 with the pre-war 11-year period 1904–1914, whereas wheat sold 44.6 per cent higher during 1919–1929, the price of copper was practically identical during said periods; also that for the period 1919–1929, 52.8 per cent more wheat was exported than for the pre-war period 1904–1914, whereas the amount of copper available for export

during 1919–1929 was 52 per cent less than the pre-war period rate. In other words, during the 11-year period 1919–1929, we find that wheat sold 44.6 per cent higher than copper, and there was exported 104.8 per cent more wheat proportionately than copper when comparing said postwar period with the pre-war period, 1904–1914.

Comparing price and export factors for the 7-year post Fordney-McCumber tariff period, 1923–1929, with the 11-year pre-war period, 1904–1914, we find that whereas wheat sold 32.3 per cent higher during 1923–1929, the price of copper sold 3 per cent less; also that for the period 1923–1929, 30 per cent more wheat was exported than for the pre-war period, 1904–1914; whereas the amount of copper available for export during 1923–1929 was 42 per cent less than the pre-war period rate. In other words, during the 7-year post Fordney-McCumber wheat tariff period, 1923–1929, we find that protected wheat sold 35.3 per cent higher proportionately than unprotected copper, and there was exported proportionately 72 per cent more protected wheat than unprotected copper when comparing said 7-year period with the period 1904–1914.

It is most interesting to note at this point that the rigidly protected steel billet and highly protected lead bar combined sold about 55 per cent higher during 1923–1929 than they did during 1904–1914. In fact, all rigidly protected domestic commodities which could curtail their productive capacity to about equal domestic consumption sold averagely at least 50 per cent higher during 1923–1929 than 1904–1914.

THE PROTECTED WHEAT GROWER

Wheat was on the free list, unprotected, for eight years preceding the emergency duty of 1921, and the more rigid and certain protection accorded by the Fordney-McCumber Tariff Act, effective September 22, 1922. The wheat grower appeared in force during 1921 and 1922 before the various congressional committees, Senators, likewise Congressmen, energetically insisted on wheat being accorded a rigid protective tariff rate. The whole theme of this protective demand for wheat being that irrespective of the fact that the wheat grower could not approximate within 40 per cent of what his annual production rate would be, nevertheless he was entitled to sale control of his home market. The domestic wheat grower was vehement in his demand for a rigid tariff rate that would exclude any and all foreign wheat from entering the domestic market. We note that as of 1920 about 36,000,000 bushels of duty-free wheat was imported; as of 1923, when a 30-cent tariff rate per bushel was effective, the imports had dropped to about 9,000,000 bushels; as of 1927, when the 42 cents per bushel duty rate was effective, the dutiable imports had dropped to about 21,000 bushels. This meteoric descending rate of wheat imports emphasizes the rigid control that the domestic grower of wheat now possesses within the home market.

The wheat farmer's complaint is not directed against the lack of sale control of the domestic wheat market, but against the fact that he is not securing a commodity price for his product. The wheat grower notes that whereas all domestic protected and production controlled commodities sold averagely about 50 per cent higher for 1923–1929 when compared with the prices for 1904–1914, yet pro-

tected wheat only sold about 32.3 per cent higher as aforestated. The wheat grower is seeking commodity price equality; he demands a price for his wheat equivalent to what all other domestic products are selling at. He feels he should have received at least $1.28 per bushel for his wheat in 1923–1929 instead of the $1.13 actually received.

The wheat grower is insisting on this commodity price equality irrespective of his lack of productive control of wheat to exactly coincide with domestic consumptive demand. In order to accord the domestic grower of wheat a commodity price for same within the home market, we note the most unusual experimental and solicitous methods employed to effect this end. The wheat grower is striving for this commodity price equality behind a rigid protective tariff barrier. No one hears a cry from the wheat farmer to destroy this protective barrier, for in doing so the farmer realizes full well that he would forthwith lose the near commodity price he now possesses. The wheat grower is striving to synchronize the domestic production of wheat to meet consumptive demand, but it is a near impossibility to exactly effect same, due to varying climatic conditions and destructive insect agencies, likewise to the lack of unison and coordinated effort amongst the 2,000,000 growers thereof.

The unprotected domestic copper miner is in a far more desperate and tragic economic situation than that besetting the domestic wheat grower.

We note aforegoing that the copper miner had to sell his unprotected copper ingot during the 7-year 1923–1929 Fordney-McCumber tariff period, at a price 3 per cent less than the price he received during the pre-war 11-year 1904–1914 period.

We further note as aforestated that the rigidly protected steel billet and highly protected lead bar, combined, sold 55 per cent higher during 1923–1929 than they did during 1904–1914. There is no economic reason why a rigidly protected copper ingot should not have sold at least 50 per cent higher during 1923–1929 over and above the existent price of 14.9 cents for the pre-war period 1904–1914, or at the price of about 22 cents per pound.

There is no economic filial reason why the copper miner should be isolated within the morass of free tradism, midst the merciless and devastating economic forces generated by the slave-labor competition of Africa and the Indian-labor competition of South America, by being denied the beneficent protection extended his economic brothers, numbered by the millions, within all the present highly protected industries. The past economic history of the domestic copper mining industry during the many years it was rigidly protected, emphasizes that the domestic copper ingot sold uniformly within the domestic market at about the world price plus the tariff differential.

Rigid protection extended the domestic copper ingot will prove beneficial to all those dependent on its continued production. Such protection, however, will prove disastrous to that coterie of domestic internationalists and their retainers who are frantically energetic in their efforts to complete the ruin of the domestic copper miner's product, in order that they can ship in unmolestedly the copper ingot from their foreign ore estates.

The domestic copper miner can regulate to a most minute degree the productive rate of copper to exactly meet domestic consumptive demand, while the wheat grower is unable to accurately regulate his rate of production.

The wheat grower, even though unable to control his domestic rate of production to coincide with domestic demand, nevertheless receives a near commodity price for his product, due to the fact that he possesses sale control of the domestic market through rigid tariff protection.

The domestic copper miner, through his ability to exactly control domestic copper production to just meet domestic demand, can and will receive a full domestic commodity price for his copper ingot when rigid protection is again accorded same.

HOVAL A. SMITH.

WARREN, ARIZ., *September 21, 1931.*

EXHIBIT No. 1

FOREIGN AND DOMESTIC TRANSPORTATION COSTS

TABLE 11.—*Cost data—Water-haul cost (foreign bottoms) per ton of copper to New York from various Chilean-African and other foreign ports*

[Data secured from transportation division, Department of Commerce, Washington, D. C., June, 1926 from p. 44, S. Doc. No. 153, 1st sess. 69th Cong.]

Name of port		Distance in miles		Cost		
From—	To—	Water	Land	2,240 pounds	2,000 pounds	2,000 pounds (land-mile)
Antofagasta, Chile	New York	[1] 4,158	[1] 4,788	$5.75	$5.12	$0.00106
Do	San Francisco	4,762	5,484	5.75	5.12	.00095
Do	Seattle	5,549	6,386	5.75	5.12	.00080
Do	Galveston	[1] 3,659	[1] 4,213	5.75	5.12	.00121
Do	Liverpool [2]	[1] 6,813	[1] 7,845	6.25	5.58	.00071
Do	Hamburg [2]	[1] 7,233	[1] 8,329	6.25	5.58	.00067
Do	Havre [2]	[1] 6,778	[1] 7,805	6.25	5.58	.00071
Do	Genoa [2]	[1] 7,368	[1] 8,484	6.25	5.58	.00065
Do	Yokohama [2]	9,083	10,469	5.60	5.00	.00048
Do	Shanghai [2]	10,019	11,537	6.16	5.50	.00047
Valparaiso, Chile	New York	[1] 4,633	[1] 5,335	5.75	5.12	.00095
Do	San Francisco	5,140	5,919	5.75	5.12	.00086
Do	Galveston	[1] 4,152	[1] 4,781	5.75	5.12	.00107
Do	Liverpool [2]	[1] 7,207	[1] 8,299	6.25	5.58	.00067
Do	Havre [2]	[1] 7,258	[1] 8,358	6.25	5.58	.00067
Do	Genoa [2]	[1] 7,840	[1] 9,033	6.25	5.58	.00062
Do	Yokohama [2]	9,313	10,724	5.60	5.00	.00046
Callao, Peru	New York	[1] 3,363	[1] 3,873	5.75	5.12	.00132
Do	San Francisco	3,987	4,591	5.75	5.12	.00111
Do	Seattle	4,774	5,498	5.75	5.12	.00093
Do	Galveston	[1] 2,882	[1] 3,319	5.75	5.12	.00154
Do	Liverpool [2]	[1] 5,937	[1] 6,837	6.25	5.58	.00081
Do	Hamburg [2]	[1] 6,459	[1] 7,438	6.25	5.58	.00075
Do	Yokohama [2]	8,555	9,851	5.60	5.00	.00050
Do	Shanghai [2]	9,491	10,929	6.16	5.50	.00050
Benguela, Africa	New York [2]	5,773	6,420	6.77	6.00	.00094
Dar-es-Salaam, Africa	....do	8,331	9,597	7.27	6.48	.00067
Do	Liverpool [2]	[3] 6,325	[3] 7,283	7.27	6.48	.00088
Do	Hamburg [2]	[3] 6,690	[3] 7,707	7.27	6.48	.00084
Beira, Africa	New York	8,290	9,550	7.27	6.48	.00067
Do	Liverpool [2]	[3] 7,235	[3] 8,354	7.27	6.48	.00077
Do	Hamburg	[3] 7,600	[3] 8,755	7.27	6.48	.00074
Cape Town, Africa	New York	6,786	7,814	7.27	6.48	.00082
Do	Liverpool [2]	6,080	7,001	7.27	6.48	.00092
Do	Hamburg [2]	6,485	7,470	7.27	6.48	.00086

[1] Via Panama Canal.
[2] Rates between these ports have been estimated.
[3] Via Suez Canal.

TABLE 11.—*Cost data—Water-haul cost (foreign bottoms) per ton of copper to New York from various Chilean-African and other foreign ports*—Continued

Name of port		Distance in miles		Cost		
From—	To—	Water	Land	2,240 pounds	2,000 pounds	2,000 pounds (land-mile)
Calcutta (pig iron)	New York	[3] 9,816	[3] 11,304	$6.06	$5.40	$0.00047
Do	Liverpool [2]	[3] 7,935	[3] 9,141	5.33	4.76	.00052
Do	Hamburg [2]	[3] 8,300	[3] 9,562	5.33	4.76	.00049
Melbourne, Australia	New York	[1] 9,945	[1] 11,452	7.88	7.02	.00061
Do	Liverpool [2]	[3] 11,084	[3] 12,764	8.48	7.56	.00059
Do	Hamburg [2]	[3] 11,350	[3] 13,075	8.48	7.56	.00057
New York, U. S. A.	Liverpool	3,107	3,578	5.50	4.90	.00136
Do	Hamburg	3,648	4,201	4.50	4.02	.00095
Do	Havre	3,192	3,676	5.50	4.90	.00133
Do	Genoa	4,060	4,675	5.75	5.12	.00109
Do	Buenos Aires	5,871	6,761	13.50	12 05	.00178
Do	Yokohama	[1] 9,699	[1] 11,169	12.32	11.00	.00098
Do	Shanghai	[1] 10,573	[1] 12,176	12.88	11.50	.00094

[1] Via Panama Canal.
[2] Rates between these ports have been estimated.
[3] Via Suez Canal.

NOTE.—All rates same for refined and unrefined copper; except from New York rates apply on refined copper.

TABLE 12.—*Freight cost to New York from principal domestic copper-producing areas—per ton (2,000 pounds)*

[Copper data secured from transportation division, Department of Commerce, June, 1926, from p. 45, S. Doc. No. 153, 1st sess., 69th Cong.]

Freight cost to New York from—	All-rail route		Rail and water route		
	Miles	Cost	Statute miles		Cost
			Rail	Water	
Butte, Mont	2,510	$12.50			
Butte, Mont. (via Seattle and Panama)			668	6,953	$15.09
Garfield, Utah	2,450	12.50			
Garfield, Utah (via San Francisco and Panama)			865	6,059	13.85
Ely, Nev	2,717	13.50			
Ajo, Ariz	2,783	14.50			
Ajo, Ariz. (via Galveston)			1,371	2,180	12.50
Douglas, Ariz	2,478	14.50			
Douglas, Ariz. (via Galveston)			1,103	2,180	12.50
Hayden, Ariz	2,810	14.50			
Hayden, Ariz. (via Galveston)			1,401	2,180	12.50
Jerome, Ariz	2,684	14.50			
Jerome, Ariz. (via Los Angeles and Panama)			547	5,677	
Miami, Ariz	2,640	14.50			
Miami, Ariz. (via Galveston)			1,077		12.50
Calumet, Mich	1,357	11.80			
Calumet, Mich. (via Lake route)			413	935	10.60
Ducktown, Tenn	1,152	10.80			

EXHIBIT NO. 2

CHILE AND KATANGA WAGE DETAILS

[From pp. 47-49, S. Doc. No. 153, 69th Cong., 1st sess.]

CHILEAN LABOR WAGES

The following Chilean labor cost data was secured from Bureau of Labor Statistics, United States Department of Labor, Washington, D. C., June, 1926:

The following table showing the average daily wages paid in the more important industries in Chile for the year 1924 is taken from the official bulletin issued by the Chilean labor office (Boletin de la Oficina del Trabajo), No. 22, Year XIV, Santiago, 1924, page 166. Although the above-mentioned publication did not specify as to whether these wages were paid in gold or paper pesos, it is assumed that the paper pesos were used, the average exchange rate of which in United States currency was $0.1054 for the year 1924. The conversions have been made on this rate.

Average daily wages in Chile for the year 1924, by occupation

Occupation	Paper pesos	United States currency	Occupation	Paper pesos	United States currency
Lathe makers	₱11.00	$1.16	Drillers	₱10.00	$1.05
Mechanics	11.00	1.16	Metal grinders	10.00	1.05
Smiths	11.00	1.16	Miners	9.00	.95
Braziers	11.00	1.16	Gas fitters and tinsmiths	8.00	.84
Locksmiths	11.00	1.16	Bakers	7.00	.74
Molders	11.00	1.16	Truckmen	7.00	.74
Electricians	10.00	1.05	Workers in the building industry	5.50	.58
Bricklayers	10.00	1.05	Agricultural workers	3.00	.32
Carpenters	10.00	1.05			

ANALYSIS CHILE LABOR COSTS

The foregoing Chilean labor wages are approximately one-fifth the wage scale prevailing within our domestic copper areas.

This Chilean wage scale visualizes most effectively the foreign-labor competition besetting our domestic copper mines. The only way that such oppressed and low-wage labor competition can be eliminated within our domestic areas is through the medium of an adequate protective tariff.

KATANGA LABOR WAGES

The following extracts taken from a digest of an article in the January 2, 1926, issue of Engineering and Mining Journal Press, entitled "South Africa Copper Region":

The two principal centers of activity are Elisabethville, the seat of administration, and Panda, 88 miles northwest, where a concentrator has been erected. The Lubumbashi smelter is near Elisabethville. Smelter employees number 3,300—300 whites and 3,000 natives. Each furnace is operated by 16 natives under a white foreman.

The Union Miniere has opened up 10 mines, of which the Star of the Congo was the first. The pit is 120 feet deep and 450 feet long and wide.

At Fungurume, 90 miles from Panda, a literal "mountain of ore" exists. Steam shovels are used for digging, but their efficiency is much impaired by the ignorance of the natives that control their operation. White men are placed on locomotives, but natives operate stationary hoists. As much as possible the work of the natives is done on piece system. Of the total of mining cost only 20 per cent is for native labor. The natives are paid from 80 centimes to 1.75 francs (par 15.4 cents to 33.8 cents, present value 2.4 cents to 5.2 cents) per day, plus food, clothing, and housing. The average cost of these items is 8 francs (par $1.54, present value, 23.7 cents). The food ration per week consists of 15 pounds of mealie, 4 pounds of meat, 2 pounds of rice, 2 pounds of beans, 1 pound of peanuts, or 1 pound of palm oil, a roll of tobacco, and pinch of salt. The same ration if given to each wife and a half to each child. The Union Miniere employs 14,000 natives. The white employees are engaged for a period of three years, after which a holiday of six months is granted. Most of them are Belgians. The Union Miniere does not maintain the color bar; it encourages the native to learn how to become a skilled worker. In the Transvaal it is illegal to allow the native to do the work of an artisan.

At Luishia 180 young natives were being taught to do the work of carpenters and smiths. They make office furniture and window frames; they repair cars and boiler tubes. These "boys" are under contract for 3 years and start with a pay of 2.25 francs (par 43.4 cents, present value 6.7 cents) per day, plus food and hut. In their third year they receive 3.3 francs (par 63.7, present value 9.8 cents).

The Union Miniere by reason of its deposits of pitcheblende and other uranium ores containing radium controls the world's market of this precious metal. It has killed American production and has made two of the American companies its selling agents. This company also produces cobalt and has tin deposits.

The Katanga as a mineral region ranks with the richest and most diversified ever exploited by man.

Excavation with native labor costs 25 cents per cubic yard.

Said digest was prepared by Bureau of Labor Statistics, United States Department of Labor, June, 1926.

ANALYSIS OF KATANGA LABOR COSTS

The foregoing cost data denote that the Katanga miner receives about 5.2 cents per day plus food, clothing, and housing. His total emolument equals about 23.7 cents per day.

The apprentice carpenters and smiths receive a total of 1.5 cents more per day than the miners for the first year and 4.6 more per day during their third year.

The foregoing native wages are about one-twentieth of the wages prevailing within our domestic copper areas.

It is very evident that Katanga labor can not be termed "competitive labor"; its real designation is "slave labor."

The overwhelming menace of such labor competition as against our domestic copper miner can only be eliminated through the medium of an adequate protective tariff.

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