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U. S. DEPARTMENT OF LABOR
JAMES J. DAVIS, Secretary
BUREAU OF LABOR STATISTICS
ETHELBERT STEWART, Commissioner

BULLETIN OF THE UNITED STATES BUREAU OF LABOR STATISTICS . . . No. 365

WAGES AND HOURS OF LABOR SERIES

WAGES AND HOURS OF LABOR IN THE PAPER AND PULP INDUSTRY 1923

JANUARY, 1925

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CONTENTS

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WAGES AND HOURS OF LABOR IN THE PAPER AND PULP INDUSTRY, 1923

INTRODUCTION AND SUMMARY

This report presents the results of a study of wages and hours of labor in the paper and pulp industry in 1923.

The information herein compiled covers 35,799 male wage earners and 3,262 female wage earners working in 199 establishments located in California, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Ohio, Oregon, Pennsylvania, Vermont, Virginia, Washington, and Wisconsin, these States containing 90[1] per cent of the total number of wage earners in the paper and pulp mills of the United States.

The pulp establishments scheduled are engaged in manufacturing ground-wood, sulphite-fiber, and sulphate-fiber pulp. Mills manufacturing soda-fiber pulp are not included.

The paper-mill establishments scheduled are those whose principal product is book, newsprint, wrapping, or writing paper. Mills manufacturing manila (rope, jute, tag, etc.), heavy wrapping, straw, bogus, or wood manila paper have not been scheduled.

The figures have been taken from pay rolls ranging from March to August. Most of the data, however, are as of March, April, and May, 1923.

The tables show earnings per hour, full-time or customary hours of labor per week, days and hours actually worked, and earnings actually received in the representative pay period taken. These figures are shown by occupation, sex, and region. In addition the report presents other pertinent information concerning this industry and a description of the occupations therein.

The number of establishments, number of employees, average full-time hours per week, average full-time earnings per week, and average earnings per hour for all occupations combined, by regions, are shown in Table 1.

[1] Census of Manufactures, 1921.

TABLE 1.—NUMBER OF ESTABLISHMENTS AND EMPLOYEES, AVERAGE FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND FULL-TIME EARNINGS PER WEEK, 1923, BY REGION

PULP MILLS

Region	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
New England	22	3,364	50.3	$0.483	$24.29
New York	20	2,633	52.5	.474	24.89
Pennsylvania, Maryland, and Virginia	7	950	59.2	.463	27.41
Michigan and Ohio	8	926	52.9	.491	25.97
Wisconsin and Minnesota	16	3,193	52.8	.440	23.23
Pacific coast	5	1,736	52.2	.464	24.22
Louisiana	3	209	67.3	.273	18.37
Total	81	13,011	52.7	.464	24.45

BOOK-PAPER MILLS

New England	8	3,433	50.2	$0.530	$26.61
New York	6	1,631	52.1	.537	27.98
Pennsylvania, Maryland, and Virginia	11	2,762	53.4	.477	25.47
Michigan and Ohio	7	3,098	50.7	.467	23.68
Wisconsin and Minnesota	2	468	51.2	.445	22.78
Total	34	11,392	51.4	.497	25.55

NEWSPRINT MILLS

New England	10	2,000	48.1	$0.620	$29.82
New York	14	2,115	48.7	.607	29.56
Michigan and Ohio	2	151	48.6	.659	32.03
Wisconsin and Minnesota	9	693	50.0	.544	27.20
Pacific coast	5	1,537	51.9	.522	27.09
Total	40	6,496	49.4	.585	28.90

WRAPPING-PAPER MILLS

New England	5	1,255	48.6	$0.578	$28.09
New York	4	456	53.2	.491	26.12
Pennsylvania, Maryland, and Virginia	4	512	59.5	.465	27.67
Michigan and Ohio	5	642	55.6	.514	28.58
Wisconsin and Minnesota	6	1,174	51.2	.485	24.83
Total	24	4,039	52.4	.517	27.09

WRITING-PAPER MILLS

New England	8	1,516	49.1	$0.541	$26.56
Pennsylvania, Maryland, and Virginia	2	783	56.1	.562	31.53
Michigan and Ohio	7	1,108	51.0	.496	25.30
Wisconsin and Minnesota	3	716	51.2	.426	21.81
Total	20	4,123	51.3	.513	26.32

It will be noted that in pulp manufacturing the average full-time hours per week range from 50.3 in New England to 67.3 in Louisiana. The average full-time earnings per week range from $18.37 in Louisiana to $27.41 in Pennsylvania, Maryland, and Virginia. The average earnings per hour range from 27.3 cents in Louisiana to 49.1 cents in Michigan and Ohio.

In book-paper manufacturing the average full-time hours per week range from 50.2 in New England to 53.4 in Pennsylvania, Maryland, and Virginia. The average full-time earnings per week range from

$22.78 in Louisiana to $27.98 in New York. The average earnings per hour range from 44.5 cents in Wisconsin and Minnesota to 53.7 cents in New York.

For newsprint mills the average full-time hours per week range from 48.1 in New England to 51.9 on the Pacific coast. The average full-time earnings per week range from $27.09 on the Pacific coast to $32.03 in Michigan and Ohio. The average earnings per hour range from 52.2 cents on the Pacific coast region to 65.9 cents in Michigan and Ohio.

For wrapping-paper mills the average full-time hours per week range from 48.6 in New England to 59.5 in Pennsylvania, Maryland, and Virginia. The average full-time earnings per week range from $24.83 in Wisconsin and Minnesota to $28.58 in Michigan and Ohio. The average earnings per hour range from 46.5 cents in Pennsylvania, Maryland, and Virginia to 57.8 cents in New England.

For writing-paper mills the average full-time hours per week range from 49.1 in New England to 56.1 in Pennsylvania, Maryland, and Virginia. The average full-time earnings per week range from $21.81 in Wisconsin and Minnesota to $31.53 in Pennsylvania, Maryland, and Virginia. The average earnings per hour range from 42.6 cents in Wisconsin and Minnesota to 56.2 cents in Pennsylvania, Maryland, and Virginia.

A summary of the average full-time hours per week, average earnings per hour, average full-time earnings per week, and classified full-time hours per week for each occupation and for all occupations combined are shown in Table 2. The group designated "Other employees" includes employees whose occupations are not peculiar to the industry but rather are common to most industries, and employees in occupations too few in number or of too little significance to warrant a separate classification.

TABLE 2.—AVERAGE HOURS AND EARNINGS, AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION AND SEX

PULP MILLS

Occupation and sex	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week	Per cent of employees whose full-time hours per week were—													
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES																				
Barker men	35	290	52.2	$0.448	$23.39		44			4	32	9		(1)	12					
Splitter men	36	119	52.5	.451	23.68		29		2	4	61			1	4					
Chipper men	54	200	53.7	.455	24.43		45		1	2	27			2	16	1	4		5	
Grinder men	50	1,054	52.0	.497	25.84		56			4			37						4	
Acid makers	47	128	53.6	.617	33.07		56			9		2	16						14	2
Cooks, sulphite	47	139	53.7	.702	37.70		55			11		2	17						14	1
Cooks, sulphate	12	32	54.8	.574	31.46		66						9						25	
Blow-pit men	46	175	51.7	.474	24.51		75			7		3	2					3	10	
Diffuser men	13	37	55.1	.505	27.83		65						8						27	
Evaporator men	12	32	54.8	.496	27.18		66						9						25	
Recovery men	12	133	57.7	.436	25.16		53						9						38	
Caustic men	12	34	57.2	.499	28.54		56						9						35	
Screen men	55	292	53.0	.467	24.75		68			3		1	12					1	15	
Head pressmen	54	191	53.3	.562	29.95		55			3			30					1	10	
Pressmen	70	992	50.7	.466	23.63	(1)	68			5			18					1	7	
Rag washermen	14	62	49.0	.554	27.15		95		2											3
Rag workers, other	15	125	51.5	.450	23.18		4		57	9	27				3					
Laborers	81	5,193	53.2	.422	22.45		37		1	3	38	(1)	6	4	8	(1)	1		3	
Other employees	81	3,307	53.0	.515	27.30	(1)	48		1	4	26	(1)	7	1	5	(1)	(1)	(1)	6	1
All occupations, male	81	12,535	52.8	.469	24.76	(1)	46		1	3	25	1	10	2	5	(1)	1	(1)	5	(1)
FEMALES																				
Rag sorters	15	426	49.7	.330	16.40	3	61		7	10	20									
Rag workers, other	7	50	49.8	.372	18.53		70				30									
All occupations, female	15	476	49.7	.334	16.60	2	62		6	9	21									
All occupations, male and female	81	13,011	52.7	.464	24.45	(1)	47		1	4	24	1	10	2	5	(1)	1	(1)	5	(1)

BOOK-PAPER MILLS

MALES																				
Beater engineers	33	247	48.8	$0.697	$34.01	------	96	------	------	------	(1)	------	------	------	------	2	------	------	2	------
Beater men	34	1,005	49.9	.488	24.35	------	92	------	------	------	------	------	------	------	------	2	------	------	7	------
Size makers	31	48	54.6	.490	26.75	2	31	------	6	2	27	------	------	------	19	2	4	2	4	------
Machine tenders	34	453	49.2	.825	40.59	------	94	------	------	------	------	------	------	------	------	2	------	------	4	------
Back tenders	34	476	49.1	.609	29.90	------	95	------	------	------	------	------	------	------	------	1	------	------	4	------
Third hands	32	409	49.3	.514	25.34	------	94	------	------	------	------	------	------	------	------	2	------	------	4	------
Fourth hands	24	289	48.6	.477	23.18	------	97	------	------	------	------	------	------	------	------	3	------	------	1	------
Coating-machine runners	5	128	48.7	.613	29.85	------	88	------	------	------	12	------	------	------	------	------	------	------	------	------
Calender men	24	445	48.7	.577	28.10	------	91	------	(1)	------	5	(1)	------	1	2	------	(1)	------	------	------
Cutter men	22	204	52.7	.470	24.77	------	31	------	7	(1)	22	38	------	------	------	------	------	1	------	1
Plater men	2	10	54.4	.567	30.84	------	------	------	20	------	------	80	------	------	------	------	------	------	------	------
Trimmer men	17	106	51.7	.585	30.24	------	38	------	13	5	22	20	------	------	2	------	------	------	------	1
Packers	32	476	53.2	.517	27.50	------	6	3	16	4	45	23	------	3	------	------	------	------	------	------
Laborers	34	1,205	53.6	.431	23.10	------	15	------	13	14	38	8	------	3	7	------	(1)	------	3	(1)
Other employees	34	4,301	52.3	.512	26.78	(1)	48	(1)	4	10	21	2	1	4	6	1	1	(1)	2	1
All occupations, male	34	9,802	51.4	.527	27.09	(1)	57	(1)	4	6	17	4	(1)	2	4	1	(1)	(1)	3	(1)
FEMALES																				
Cutter girls	26	385	51.3	.331	16.98	------	32	------	14	18	32	4	------	------	------	------	------	------	------	------
Plater girls	2	35	50.0	.336	16.80	------	------	------	100	------	------	------	------	------	------	------	------	------	------	------
Sorters	17	563	52.0	.307	15.96	------	7	------	30	38	25	1	------	------	------	------	------	------	------	------
Counters	23	313	51.7	.320	16.54	------	5	------	49	5	39	3	------	------	------	------	------	------	------	------
Other employees	18	294	50.6	.319	16.14	7	33	------	20	------	39	------	(1)	------	------	------	------	------	------	------
All occupations, female	31	1,590	51.5	.319	16.43	1	17	------	29	19	32	2	(1)	------	------	------	------	------	------	------
All occupations, male and female	34	11,392	51.4	.497	25.55	(1)	52	(1)	8	8	19	4	(1)	2	3	1	(1)	(1)	2	(1)

NEWSPRINT MILLS

MALES																				
Beater engineers	38	138	48.3	$0.717	$34.63	------	99	------	------	------	------	------	------	------	------	------	------	------	1	------
Beater men	33	445	48.0	.457	21.94	------	100	------	------	------	------	------	------	------	------	------	------	------	------	------
Size makers	13	14	51.9	.488	25.33	------	43	------	------	------	50	------	------	------	7	------	------	------	------	------
Machine tenders	40	418	48.0	.943	45.26	------	100	------	------	------	------	------	------	------	------	------	------	------	------	------
Back tenders	40	419	48.0	.758	36.38	------	100	------	------	------	------	------	------	------	------	------	------	------	------	------
Third hands	40	407	48.0	.641	30.77	------	100	------	------	------	------	------	------	------	------	------	------	------	------	------
Fourth hands	37	335	48.0	.513	24.62	------	100	------	------	------	------	------	------	------	------	------	------	------	------	------
Cutter men	18	53	50.6	.469	23.73	------	57	------	------	------	43	------	------	------	------	------	------	------	------	------
Trimmers	4	7	52.3	.455	23.80	------	29	------	------	------	71	------	------	------	------	------	------	------	------	------

[1]Less than 1 per cent.

TABLE 2.—AVERAGE HOURS AND EARNINGS, AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION AND SEX—Concluded

NEWSPRINT MILLS—Concluded

Occupation and sex	Number of establishments	Number of employees	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week	Per cent of employees whose full-time hours per week were—													
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES—continued																				
Packers	40	361	49.5	$0.468	$23.17	------	76	------	------	------	23	------	------	------	(1)	------	------	------	------	(1)
Laborers	40	1,011	50.3	.437	21.98	------	62	------	------	------	38	------	------	------	(1)	------	------	------	------	------
Other employees	40	2,806	50.1	.600	30.06	(1)	77	------	------	------	19	(1)	1	------	1	(1)	(1)	(1)	(1)	2
All occupations, male	40	6,414	49.3	.589	29.04	(1)	82	------	------	------	16	(1)	(1)	------	(1)	(1)	(1)	(1)	(1)	1
FEMALES																				
Cutter girls	17	65	49.4	.339	16.75	------	77	------	------	------	23	------	------	------	------	------	------	------	------	------
Other employees	3	17	54.0	.290	15.66	------	------	------	------	------	100	------	------	------	------	------	------	------	------	------
All occupations, female	17	82	50.3	.329	16.55	------	61	------	------	------	39	------	------	------	------	------	------	------	------	------
All occupations, male and female	40	6,496	49.4	.585	28.90	(1)	82	------	------	------	17	(1)	(1)	------	(1)	(1)	(1)	(1)	(1)	1

WRAPPING-PAPER MILLS

MALES																				
Beater engineers	24	84	55.1	$0.708	$39.01	------	83	------	------	------	------	------	------	------	------	------	------	2	14	------
Beater men	24	410	51.1	.470	24.02	------	87	------	------	------	------	------	------	------	------	1	------	------	12	------
Size makers	13	18	54.3	.506	27.48	------	39	------	------	------	33	------	------	------	17	------	6	------	6	------
Machine tenders	24	234	51.2	.832	42.60	------	86	------	------	------	------	------	------	------	------	------	------	2	12	------
Back tenders	24	235	51.2	.638	32.67	------	86	------	------	------	------	------	------	------	------	------	------	2	12	------
Third hands	24	222	50.8	.543	27.58	------	88	------	------	------	------	------	------	------	------	------	------	2	10	------
Fourth hands	21	195	50.1	.468	23.45	------	91	------	------	------	------	------	------	------	------	------	------	------	9	------
Calender men	2	5	50.4	.614	30.95	------	60	------	------	------	40	------	------	------	------	------	------	------	------	------
Cutter men	18	54	53.1	.492	26.13	------	28	------	------	------	59	------	------	------	13	------	------	------	------	------
Trimmers	9	13	54.9	.497	27.29	------	------	------	------	------	85	------	------	8	8	------	------	------	------	------
Packers	23	248	53.7	.462	24.81	------	28	------	1	------	53	------	------	5	11	------	------	------	------	2
Laborers	24	634	52.5	.432	22.68	------	46	------	------	------	38	------	------	(1)	12	------	------	------	3	(1)
Other employees	24	1,480	53.3	.528	28.14	------	53	------	(1)	------	28	------	(1)	2	5	(1)	(1)	2	6	2
All occupations, male	24	3,832	52.4	.528	27.67	------	62	------	(1)	------	22	------	(1)	1	5	(1)	(1)	1	7	1

FEMALES																				
Cutter girls	19	119	52.6	0.305	16.04		18			7	75									
Counters	11	65	53.0	.299	15.85		6		17		77									
Other employees	6	23	52.4	.297	15.56		17		13		70									
All occupations, female	22	207	52.7	.302	15.92		14		7	4	75									
All occupations, male and female	24	4,039	52.4	.517	27.09		60		(1)	(1)	25		(1)	1	5	(1)	(1)	1	7	1

WRITING-PAPER MILLS

MALES																				
Beater engineers	20	95	50.6	$0.843	$42.66		88				1								11	
Beater men	20	436	51.4	.495	25.44		86												14	
Size makers	19	34	53.8	.529	28.46		6		38	3	29				18		6			
Machine tenders	20	168	49.4	.890	43.97		94												6	
Back tenders	20	173	49.5	.634	31.38		94												6	
Third hands	20	152	49.6	.510	25.30		93												7	
Fourth hands	6	31	48.0	.471	22.61		100													
Loft men	5	46	49.3	.606	29.88		33		67											
Calender men	16	90	50.8	.569	28.91		74		7	1	1				12				4	
Cutter men	17	121	52.0	.500	26.00		12		20	17	49	2								
Plater men	8	28	50.9	.705	35.88				68	11	21									
Counters	3	11	50.0	.557	27.85				100											
Trimmers	19	84	52.1	.623	32.46		7		29	18	29	18								
Packers	20	202	52.4	.528	27.67		5		21	18	50	6								
Laborers	20	396	52.3	.433	22.65		20		23	14	28	10			2				3	
Other employees	20	1,149	51.6	.532	27.45	(1)	41		20	7	18	2			7		(1)		3	1
All occupations, male	20	3,216	51.3	.551	28.27	(1)	51		15	7	16	3			3		(1)	(1)	5	(1)
FEMALES																				
Cutter girls	14	164	51.3	.322	16.52	5	21		23	7	43									
Plater girls	8	218	50.1	.414	20.74		54		17		29									
Sorters	14	160	51.1	.389	19.88		41		9	6	44									
Counters	16	213	52.5	.358	18.80		5		31		64									
Other employees	14	152	51.1	.408	20.85		43		3	11	43									
All occupations, female	20	907	51.2	.379	19.40	1	32		18	4	45									
All occupations, male and female	20	4,123	51.3	.513	26.32	(1)	47		16	6	22	2			3				4	(1)

[1] Less than 1 per cent.

It will be observed that in pulp manufacturing, the average full-time hours per week for all occupations for males are 52.8 and for females 49.7; that the average earnings per hour of males are 46.9 cents and of females 33.4 cents; and that the average full-time earnings per week of males are $24.76 and of females $16.60.

In book-paper manufacturing the average full-time hours per week for males are 51.4 and for females 51.5; the average earnings per hour of males are 52.7 cents and of females 31.9 cents; and the average full-time earnings per week of males are $27.09 and of females $16.43.

In newsprint manufacturing the average full-time hours per week for males are 49.3 and for females 50.3; the average earnings per hour of males are 58.9 cents and of females 32.9 cents; and the average full-time earnings per week of males are $29.04 and of females $16.55.

In wrapping-paper manufacturing the average full-time hours per week for males are 52.4 and for females 52.7; the average earnings per hour of males are 52.8 cents and of females 30.2 cents; and the average full-time earnings per week of males are $27.67 and of females $15.92.

In writing-paper manufacturing the average full-time hours per week for males are 51.3 and for females 51.2; the average earnings per hour of males are 55.1 cents and of females 37.9 cents; and the average full-time earnings per week of males are $28.27 and of females $19.40.

It will be seen that in the several occupations in pulp mills the average earnings per hour of males range from 42.2 cents for laborers to 70.2 cents for cooks, sulphite; in book-paper mills from 43.1 cents for laborers to 82.5 for machine tenders; in newsprint mills from 43.7 cents for laborers to 94.3 cents for machine tenders; in wrapping-paper mills from 43.2 cents for laborers to 83.2 cents for machine tenders; and in writing-paper mills from 43.3 cents for laborers to 89 cents for machine tenders.

Table 3 shows for each of the most important occupations the number of establishments, the number of employees, the average earnings per hour and the per cent of employees earning each classified amount per hour. In the selected occupations for the paper and pulp industry, the male and female employees combined represent 47 per cent of all employees covered.

In the "pulp-mill" section of the table data are shown for males in 9 and for females in 1 of the 10 selected occupations. The males and females combined represent 55.7 per cent of all pulp-mill employees scheduled.

The "book-paper-mill" section shows males in 6 and females in 2 selected occupations. The males and females combined represent 42.7 per cent of all book-paper-mill employees scheduled.

The "newsprint-mill" section shows males in 5 selected occupations. These employees represent 41.6 per cent of all newsprint-mill employees scheduled. No female employees are included.

The "wrapping-paper-mill" section shows males in 6 and females in 1 selected occupation. The males and females combined represent 44.7 per cent of the wrapping-paper-mill employees scheduled.

The "writing-paper-mill" section shows males in 6 and females in 2 selected occupations. The males and females combined represent 43.4 per cent of the writing-paper-mill employees scheduled.

TABLE 3.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR OF EMPLOYEES IN SELECTED OCCUPATIONS, 1923, BY SEX

PULP MILLS

Occupation and sex	Number of establishments	Number of employees	Average earnings per hour	Per cent of employees whose earnings per hour were—															
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 90 cents	90 and under 100 cents	100 and under 125 cents	125 cents and over
MALES																				
Grinder men	50	1,054	$0.497	------	------	(1)	1	1	8	45	30	12	3	(1)	------	(1)	------	------	------	------
Acid makers	47	128	.617	------	------	------	------	1	2	5	14	15	27	20	12	3	2	------	------	------
Cooks, sulphite	47	139	.702	------	------	------	------	------	------	2	4	9	11	21	28	10	9	6	1	------
Cooks, sulphate	12	32	.574	------	------	------	------	------	9	16	13	9	25	28	------	------	------	------	------	------
Blow-pit men	46	175	.474	------	------	------	------	6	20	54	11	9	1	------	------	------	------	------	------	------
Diffuser men	13	37	.505	------	------	------	3	------	32	5	19	27	14	------	------	------	------	------	------	------
Evaporator men	12	32	.496	------	------	------	------	------	34	9	25	22	9	------	------	------	------	------	------	------
Caustic men	12	34	.499	------	------	------	------	12	29	3	18	18	15	6	------	------	------	------	------	------
Laborers	81	5,193	.422	(1)	1	1	2	16	54	19	5	1	(1)	(1)	------	------	(1)	(1)	------	------
FEMALES																				
Rag sorters	15	426	.330	4	2	27	23	39	4	(1)	1	------	------	------	------	------	------	------	------	------

BOOK-PAPER MILLS

MALES																				
Beater men	34	1,005	$0.488	------	------	------	2	(1)	16	49	26	3	1	1	(1)	(1)	1	------	------	------
Machine tenders	34	453	.825	------	------	------	------	------	(1)	1	1	(1)	(1)	2	7	27	44	14	3	------
Back tenders	34	476	.609	------	------	------	(1)	1	------	4	3	42	28	10	7	3	1	(1)	------	------
Third hands	32	409	.514	------	------	------	3	1	3	41	27	11	12	2	------	------	------	------	------	------
Calender men	24	445	.577	------	------	------	------	1	2	17	21	19	21	11	6	2	1	------	------	------
Laborers	34	1,205	.431	------	------	(1)	2	25	44	18	9	1	(1)	(1)	(1)	------	------	------	------	------
FEMALES																				
Sorters	17	563	.307	------	10	35	40	8	5	2	------	(1)	------	------	------	------	------	------	------	------
Counters	23	313	.320	(1)	7	14	53	22	4	------	------	------	------	(1)	------	------	------	------	------	------

[1] Less than 1 per cent.

TABLE 3.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR OF EMPLOYEES IN SELECTED OCCUPATIONS, 1923, BY SEX—Concluded

NEWSPRINT MILLS

Occupation and sex	Number of establishments	Number of employees	Average earnings per hour	Per cent of employees whose earnings per hour were—																
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 90 cents	90 and under 100 cents	100 and under 125 cents	125 cents and over
MALES																				
Beater men	33	445	$0.457	----	----	----	----	(1)	55	34	7	4	(1)	(1)	----	----	----	----	----	----
Machine tenders	40	418	.943	----	----	----	----	----	----	----	----	----	----	3	4	7	23	28	33	1
Back tenders	40	419	.758	----	----	----	(1)	----	----	----	1	8	10	15	18	11	26	6	4	1
Third hands	40	407	.641	----	----	----	----	----	----	3	11	7	33	25	14	6	1	----	----	----
Laborers	40	1,011	.437	----	----	----	----	3	68	20	7	1	1	----	(1)	(1)	----	----	----	----
WRAPPING-PAPER MILLS																				
MALES																				
Beater men	24	410	$0.470	----	----	----	----	9	25	46	8	8	4	(1)	----	----	----	----	----	----
Machine tenders	24	234	.832	----	----	----	----	----	----	----	----	5	3	3	13	12	37	18	8	1
Back tenders	24	235	.638	----	----	----	----	(1)	3	3	13	9	24	25	11	4	6	2	----	----
Third hands	24	222	.543	----	----	----	----	2	10	18	22	17	21	9	(1)	1	----	----	----	----
Calender men	2	5	.614	----	----	----	----	----	----	40	----	----	----	----	60	----	----	----	----	----
Laborers	24	634	.432	----	----	----	2	26	35	12	23	1	(1)	(1)	----	----	----	----	----	----
FEMALES																				
Counters	11	65	.299	----	6	35	52	6	----	----	----	----	----	----	----	----	----	----	----	----

MALES																				
Beater men	20	436	$0.495						27	32	26	9	2	2	(1)	1	1			
Machine tenders	20	168	.890										1		17	17	26	23	14	4
Back tenders	20	173	.634							13	14	10	21	23	12	1		6	1	
Third hands	20	152	.510					6	24	6	40	18	6		1					
Calender men	16	90	.569							8	12	61	11	6	2					
Laborers	20	396	.433				(1)	21	44	26	7	1		1						
FEMALES																				
Sorters	14	160	.389			34	21	12	8	8	6	3	4	4	1			1		
Counters	16	213	.358			18	54	8	4	5	3	1	(1)	3	1	(1)	1			

[1] Less than 1 per cent.

BRIEF HISTORY OF THE INDUSTRY

The paper and pulp industry is probably the oldest of the great modern manufacturing enterprises, and paper, as one of the staple needs of civilization, is exceeded only by food and clothing and iron and steel.

The earliest record of paper making is said by some authorities to have been when Ts'si Lun made paper for the Chinese Emperor Ho-ti, early in the second century, although history contains no positive mention of its manufacture until the middle of the eighth century, when the Arabs, after the occupation of the Chinese Province of Samarkand, began making paper from cotton.

It is claimed by other historians that the Chinese made paper from the mulberry tree in 150 A. D. They boiled branches of the tree in lye to remove the bark, then macerated the bark with water several days. The outer part was scraped off, and the inner part was boiled in lye until separated into fibers, then washed in a sieve or pan, worked by hand to a pulp, spread on a table, and beaten fine with a mallet. The pulp then was placed in a tub containing an infusion of rice and a root called "oveni," and all were mixed thoroughly. Sheets were formed by dipping a mold into the vat of pulp; after molding the sheets were placed one above another with strips of reed between them, pressed, and then dried in the sun. The Chinese made four kinds of paper; rice, silk, bamboo, and bark.

The industry was introduced in Spain by the Moors in the eleventh century. In the twelfth century paper was manufactured in Sicily; in the fourteenth century in France; at the close of the fifteenth century in England, during the reign of Henry VII; and in the seventeenth century the first mill in America was built near Philadelphia.

The Aztecs on the American continent made a paper of cotton cloth and skins and also a composition of silk and gum, but for the most part they used a fine fabric from the leaves of the aloe (*agave americana*), called by them "maguey."

During the greater part of the first century of its existence in America, paper making was a feeble industry. Wood pulp was known, but no method had been devised by which it could be used commercially.

From the time of the Arabs until the invention of ground-wood pulp, paper was made chiefly from cotton and hemp, although experiments had been made with bark, wasps' nests, straw, and other fibrous material.

Although the wasp's nest suggested to Reaumer in France in 1719 the use of wood for making paper, ground-wood pulp was not actually manufactured until 1840, in Germany, when it was offered to the world by Keller.

Wood pulp was first used with cotton waste to give strength to the product, but in 1866 Tighlman, of Pennsylvania, invented the sulphite or chemical-wood pulp, and very soon cotton waste was discarded as a factor of newsprint paper, and used only in the making of higher grades requiring greater strength.

The early struggles of the industry in America were due to several causes and conditions; skilled workmen and linen rags were scarce; there was extreme difficulty in securing even the simple tools; and the cost of production was higher than it was in Europe. The colo-

nies did all in their power to encourage the industry, premiums and subsidies being offered to get the industry established. The mills advertised extensively for the people to save rags, and very high prices were paid for them.

Although the soda-ash process was known, and although the ground-wood process had been given to the world by Keller in 1840 and the sulphite process by Tighlman in 1866, it was not until after 1880, when the existing patents expired, that the real growth of the industry in the United States began.

During the early part of the eighteenth century the average paper mill in America had two vats and a working force of about 10 men and 10 boys and girls. A two-vat mill required a capital of about $10,000 and its annual productive capacity was from 2,000 to 3,000 reams of paper of all kinds. Paper was made by hand in small sheets until 1807, when Henry and Sealy Fourdrinier, in England, perfected and patented the Fourdrinier machine (originally made and patented four years before by Robert in France) to make paper in a continuous sheet. The adoption of the Fourdrinier was slow and in 1816 it had been heard of in America only theoretically. Gilpin patented a machine in 1816 in America for the making of a continuous sheet of paper, but the machine was less efficient than a Fourdrinier. The first Fourdrinier imported was in 1827 and the first one manufactured in America was in 1829. The first endless felts made in America were produced in 1864.

Wages were considered high, but measured by present-day standards they were absurdly small. As to wages of paper workers in 1789, "for good ones, used to writing paper in every stage, we would give 15 shillings per week and board, or 15 shillings and an addition equal to board (5 shillings)." Allowing for the difference in the purchasing power of money then and now, this can scarcely be regarded as a big wage. Skilled labor in New England at that time commanded from 3 to 4 shillings per day.

In 1795 a skilled engineer who managed a plant received about three dollars a week, and a vat man and coucher, three dollars and a half per week each, without board; ordinary workmen and girls, seventy-five cents per week each, and boys, sixty cents each, with board. These were the wages that prevailed in all the mills throughout the country at that time and for some time later.

In 1800 there were 16 paper mills in America, all of them small, employing together only 160 workmen and using annually 320 tons of rags. In 1810 there were 202 paper mills, producing 42,521 reams of paper annually, valued at $1,689,718. About 2,500 persons were employed.

In 1840 there were 426 mills, producing $5,641,495 worth of paper, the capital invested being $4,745,239. About 4,226 men were employed. There is no record as to the women employed but there were a number of them. The industry at this time was still confined to the eastern part of the country.

In 1860 there were 555 mills in 24 States, producing $21,216,802 worth of paper, the capital invested being $14,052,683. There were 6,519 males and 4,392 females employed, and the total wages were $2,767,212.

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In 1880 there were 742 mills, producing $57,366,860 worth of paper, the capital invested being $48,139,652. There were 17,317 men, 7,648 women, and 666 boys and girls employed, and the total wages paid were $8,970,133.

In 1899 there were 763 mills, producing $127,326,162 worth of paper, the capital invested being $167,507,713. There were employed 41,547 men, 7,930 women, and 169 boys and girls, making a total of 49,646 wage earners, and the total wages paid were $20,746,426.

In 1909 there were 777 mills, producing $267,656,964 worth of paper, the capital invested being $409,348,505. There were 75,978 wage earners employed and the wages paid were $40,804,502.

In 1919 there were 729 mills, producing $788,059,377 worth of paper, and the capital invested was $905,794,583. There were 124,935 persons employed and they were paid $165,643,386. Of the number employed, 113,759 were wage earners, who were paid $135,690,642.

In 1921 there were 738 mills, producing $667,435,847 worth of paper. Data on the capital invested are not available. There were 115,344 persons employed and of this number 105,294 were wage earners.

The year 1880 marked America's entrance into the world trade. In that year $1,671,120 worth of paper and $7,037,197 worth of paper stock were imported, while $1,201,143 worth of manufactured paper was exported during the same period. In 1919 the balance of trade had been reversed to such an extent that only $53,602,174 worth of paper was imported, while $86,983,063 worth of paper was exported.

Table 4 shows the number of establishments engaged in the paper and pulp industry, the capital invested, value of products, etc., as shown by the United States census, for specified years.

TABLE 4.—NUMBER OF ESTABLISHMENTS, CAPITAL, COST OF MATERIALS, VALUE OF PRODUCTS, NUMBER OF WAGE EARNERS, EARNINGS, AND QUANTITY OF PULP AND PAPER PRODUCED, BY YEARS

[From United States Census of Manufactures, 1921]

Year	Number of establishments	Capital	Cost of material	Value of products	Average number of—		Amount paid to wage earners	Average yearly earnings of wage earners	Quantity produced	
					Employees	Wage earners			Pulp	Paper
									Tons	*Tons*
1879	742	$48,139,652	$34,862,132	$57,366,860	(1)	25,631	(1)	(1)	(1)	(1)
1889	649	89,829,548	44,228,480	78,937,184	(1)	31,050	(1)	(1)	(1)	(1)
1899	763	167,507,713	70,530,236	127,326,162	52,581	49,646	$20,746,426	$417.89	(1)	(1)
1904	761	277,444,471	111,251,478	188,715,189	69,742	65,964	32,019,212	485.40	1,921,768	3,106,696
1909	777	409,348,505	165,442,341	267,656,964	81,223	75,978	40,804,502	537.06	2,495,522	4,216,708
1914	718	534,624,600	213,181,286	332,147,175	95,295	88,457	53,245,639	601.94	2,893,150	5,270,047
1919	729	905,794,583	467,482,637	788,059,377	124,764	113,759	135,690,642	1,192.79	3,517,952	6,098,530
1921	[2] 738	(1)	445,992,351	667,435,847	115,344	105,294	127,028,767	1,206.42	2,876,301	5,431,265

[1] Not reported. [2] Not including 3 establishments, data not reported.

Table 5 shows the quantity of wood consumed in the manufacture of pulp, by State, process of manufacture, and kind of wood. The figures in this table are from the Forest Service, United States Department of Agriculture, printed in the Statistical Abstract, 1922, of the Department of Commerce.

TABLE 5.—QUANTITIES OF WOOD CONSUMED IN THE MANUFACTURE OF PULP, BY STATES AND KIND OF WOOD, 1920 AND 1921, AND BY PROCESS OF MANUFACTURE, 1921

[From Forest Service, Department of Agriculture, printed in Statistical Abstract, 1922, of the Department of Commerce]

State, and kind of wood	1920	1921				
		Mechanical process	Sulphite process	Soda process	Sulphate process	Total
STATE	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*	*Cords*
Maine	1,389,495	362,937	489,465	133,609	19,147	1,005,158
Wisconsin	964,781	212,773	544,106	----------	110,316	867,195
New York	1,130,505	373,826	334,251	73,091	----------	781,168
Pennsylvania	490,784	1,116	157,552	167,818	----------	326,486
New Hampshire	403,530	26,941	231,265	----------	----------	258,206
Michigan	243,632	31,093	130,352	----------	25,087	186,532
Minnesota	254,193	84,163	79,994	----------	390	164,547
Washington	143,794	51,883	76,595	21,213	----------	149,691
West Virginia	84,725	5,932	55,350	----------	----------	61,282
Vermont	116,765	41,984	3,849	----------	1,638	47,471
Massachusetts	56,049	6,501	23,995	4,378	----------	34,874
California and Oregon	190,399	80,529	112,340	----------	----------	192,869
All other States [1]	645,420	7,417	128,805	209,950	135,528	481,700
Total	6,114,072	1,287,095	2,367,919	610,059	292,106	4,557,179
KIND OF WOOD						
Spruce:						
Domestic	2,565,787	861,130	922,984	1,763	27,885	1,813,762
Imported	921,811	248,776	449,587	2,768	----------	701,131
Hemlock	885,485	75,439	763,943	----------	23,661	863,043
Poplar:						
Domestic	189,946	10,386	1,240	119,412	----------	131,038
Imported	177,748	874	142	114,626	----------	115,642
Yellow pine	323,434	10,141	6,787	107,860	114,158	238,946
Balsam fir	328,882	62,748	138,865	----------	25,113	226,726
Tamarack	69,751	5,141	9,222	----------	44,521	58,884
Yellow poplar	73,998	----------	----------	43,220	----------	43,220
White fir	41,862	4,084	38,534	----------	----------	42,618
Jack pine	40,052	5,450	448	----------	35,973	41,871
Cottonwood	25,790	28	127	21,519	----------	21,674
Gum	68,914	----------	----------	18,235	----------	18,235
Basswood	10,469	----------	----------	7,245	----------	7,245
White pine	2,202	1,486	72	----------	----------	1,558
All other kinds [2]	217,712	13	----------	164,556	----------	164,569
Slabs	170,229	1,399	35,968	8,855	20,795	67,017
Total	6,114,072	1,287,095	2,367,919	610,059	292,106	4,557,179

[1] Delaware, District of Columbia, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Ohio, South Carolina, Tennessee, Texas, and Virginia.
[2] Comprises beech, birch, maple, chestnut, Douglas fir, and elm.

EXPLANATION OF SCOPE AND METHOD

This report is compiled from data taken from the records of representative establishments manufacturing paper and pulp.

In selecting establishments from which to obtain information the bureau sought to have represented all States in which paper and pulp manufacturing is of material importance, the measure of importance being the number of wage earners as reported by the United States Census of Manufactures.

Because of the small number of establishments, in one or more of the branches of the industry covered in this study, for which data have been secured in some of the States, the information has been tabulated by regions. Proximity and similarity of products and wage rates were the determining factors in assigning the various States to the regions shown.

Table 6 shows, by regions, the number of wage earners in the industry according to the 1921 census, the number of establishments from which the bureau obtained 1923 data, and the number of employees in such establishments.

TABLE 6.—NUMBER OF WAGE EARNERS IN THE PAPER AND PULP INDUSTRY IN 1921 AND NUMBER OF ESTABLISHMENTS AND WAGE EARNERS COVERED BY THIS STUDY, BY REGION

Region	Average number of wage earners, 1921—United States Census	1923 study	
		Number of establishments	Number of wage earners
New England	31,805	37	11,568
New York	15,315	25	6,835
Pennsylvania, Maryland, and Virginia	12,685	19	5,007
Michigan and Ohio	16,042	21	5,925
Wisconsin and Minnesota	14,270	20	6,244
Pacific coast	4,257	5	3,273
Louisiana	402	3	209
Other States	10,518		
Total	105,294	130	39,061

REGULAR OR CUSTOMARY HOURS OF OPERATION

The regular or customary hours of operation of an establishment are the hours of operation when the establishment is working its recognized standard or full time; in other words, the regular or usual time between beginning work in the morning and closing in the afternoon, less the regular time off duty for midday lunch or dinner.

The amount of employment and conversely of unemployment within the pay period covered is indicated in the comparison of "Average full-time hours per pay period" with "Average hours actually worked in one pay period" which are shown in parallel columns in Table B (pp. 52 to 72) for employees of establishments having weekly pay periods. The averages in the first of these two columns show the possible hours of opportunity for work in one pay period under normal conditions, while the averages in the other column show what was actually done in one pay period.

Some employees in an occupation or an establishment may have worked more than the full-time hours during the pay period scheduled, because of overtime work, while others may have worked less than the full-time hours because of having been sick, disabled, or laid off part time or on account of termination of service before the end of the pay period covered or of having entered service after the beginning of the period.

Table 2 shows the per cent of employees working each classified number of regular or customary full-time hours per week, while Table A (pp. 33 to 51) shows the number of employees within each group.

The full-time hours per week of 47 per cent of the 13,011 pulp employees covered in 1923, as shown in Table 2, are 48; of 24 per cent are 54; of 10 per cent are 56; and of less than 1 per cent of the employees are over 72.

The full-time hours per week of 52 per cent of the 11,392 book-paper employees, are 48; of 19 per cent are 54; and of less than 1 per cent are over 72. The full-time hours per week of 82 per cent of the 6,496 newsprint employees are 48; of 17 per cent are 54; and of only 1 per cent are over 54.

The full-time hours per week of 60 per cent of the 4,039 wrapping-paper employees are 48; of 25 per cent are 54; and of only 1 per cent are over 72. The full-time hours per week of 47 per cent of the 4,123 writing-paper employees are 48; of 16 per cent are 50; of 22 per cent are 54; and of less than 1 per cent are over 72.

Between April 1, 1920, and the period covered in 1923 regular or customary full-time hours per week of day laborers of 3 pulp, 3 newsprint, and 1 book establishment were increased from 8 to 9 hours.

In no establishment were the full-time customary hours reduced.

No change was made in the regular or customary hours of 192 establishments.

CHANGES IN WAGE RATES SINCE APRIL 1, 1920

One hundred and ninety-three, or 98 per cent, of the 197 establishments covered by the study reported one or more changes in wage rates between April 1, 1920, and the date of the 1923 study. Two establishments did not report on this point and four others reported no change.

In both the paper and pulp establishments represented there were 9, or 4.6 per cent, having one wage change; 17, or 8.6 per cent, having two changes; 31, or 15.7 per cent, having three changes; 75, or 38.1 per cent, having four changes; 37, or 18.6 per cent, having five changes; 19, or 9.6 per cent, having six changes; 1, or 0.5 per cent, having seven changes; 2, or 1 per cent, having eight changes; and 2, or 1 per cent, having nine changes. Two establishments did not report as to wage changes, and four establishments had no wage changes.

In the pulp mills 78, or 98 per cent, of the 80 mills reporting had one or more wage changes. Two establishments had no wage changes at all during the period of this investigation and in one mill the information was not reported.

One hundred and fifteen, or 98 per cent, of the 117 paper mills reporting, made one or more changes in wage rates during this same period. Two establishments had no changes. One establishment gave no information on the subject.

TABLE 7.—NUMBER OF ESTABLISHMENTS REPORTING WAGE CHANGES, APRIL 1, 1920, TO DATE OF THIS STUDY

Division of the industry	Number of establishments having specified number of wage changes										
	No wage change	1	2	3	4	5	6	7	8	9	Total reporting
Pulp manufacturing	2	6	5	11	26	22	6	----	1	1	80
Paper making:											
Book paper	1	----	5	5	15	5	3	----	----	----	34
Newsprint paper	----	1	3	8	16	6	5	1	----	----	40
Wrapping paper	1	1	4	2	8	2	4	----	1	----	23
Writing paper	----	1	----	5	10	2	1	----	----	1	20
Total paper making	2	3	12	20	49	15	13	1	1	1	117
Total paper and pulp manufacturing	4	9	17	31	75	37	19	1	2	2	197

BONUSES

Twenty-one of the 199 paper and pulp mills for which data are presented had in operation between April 1, 1920, and the period for which 1923 figures are shown, bonus systems which increased the earnings of employees over and above earnings at the regular or fixed rates. The bonus systems of 16 establishments were not changed, 2 were abolished, and 3 were altered before the 1923 data were collected.

The bonus systems are based on earnings, service, production, speed, and in one case a premium plan. Only one establishment had a bonus based on earnings and that firm discontinued it on December 31, 1920. Five establishments had bonus systems based on length of continuous service of wage earners in the establishment. One establishment paid a bonus of 1 per cent for each year of continued service, based on earnings at the end of the year. One establishment paid a service bonus of $25 per month to September, 1920, when the system was discontinued.

One establishment paid a bonus to skilled labor of 2 cents an hour for each year of service. Unskilled labor received a bonus of 1 cent an hour for each year of service. One establishment paid a bonus of 5 per cent for service of 5 years and less than 10 years; 10 per cent for service of 10 years and less than 15 years; 15 per cent for service of 15 years and less than 20 years; and 20 per cent for service of 20 years or more.

Twelve establishments had a "production bonus," commonly called an "efficiency bonus." Under this bonus plan as the mill earned more because of greater production in the same working time and with the same number of employees, the employees' earnings were increased at a specified rate; for example, if the standard normal or average capacity of the mill is 100,000 pounds of paper per day and the mill produced during any period 1,000 or more pounds in excess of that normal amount, then the company gave the men concerned an additional rate as a bonus, the rate being based usually on 1,000 pounds produced over and above a specified amount.

The minimum tonnage required before a production or efficiency bonus is paid varies with each mill, according to size and equipment,

different kinds of wood used, and different grades of paper produced. In some mills the required production is as low as 45,000 pounds daily and in others the daily production must be at least 125,000 or 130,000 pounds.

When applied to sulphite and sulphate mills this production bonus is usually based on a certain number of "cooks" completed. When applied to beater crews and paper-machine crews, the bonus is usually based on the number of pounds of paper produced. The latter method is used also for the finishing and calendering departments.

One establishment had a "speed bonus" in addition to a "premium plan," two systems of bonus which are seldom found. This establishment had a scale of six speeds, ranging from the minimum to the maximum speed of each machine. The bonus was paid on an hourly basis according to the rate specified in the speed scale; for example, for the number of hours that the machine was kept at No. 1 speed the sum of 1.04 cents per hour was added to the regular rate of compensation; for the number of hours that the machine was kept at No. 2 speed the sum of 1.66 cents per hour was added. The scale was graduated, i. e., No. 1 speed paid 1.04 cents additional; No. 2 speed paid 1.66 cents additional; No. 3 speed paid 2.5 cents additional; No. 4 speed paid 3.33 cents additional; No. 5 speed paid 4.17 cents additional; and No. 6 speed paid 5 cents.

The premium plan of this mill which has the speed bonus was based on the "down time" of each machine; for example, if there was no "down time" on the paper machine, that is, if it ran all the time, machine tenders each received $3 per week extra; if down only 1 hour, $2.40 per week; 2 hours, $1.80 per week; 3 hours, $1.20 per week; 4 hours, 60 cents per week. If down over 4 hours no bonus was paid. The others on the machine crew received one-half of the above amounts.

Detailed information was not obtained from four establishments having a production bonus.

EXTRA PAY FOR OVERTIME AND FOR WORK ON SUNDAYS AND HOLIDAYS

Between April 1, 1920, and the period for which 1923 data were obtained, 68 of the 81 pulp establishments covered paid, as shown in Table 8, all or part of the employees extra rates for any time worked over and above the regular or customary full-time hours per day or per week and for work on Sundays and holidays. Thirteen establishments paid the regular or single rate for overtime and for work on Sundays and holidays during the entire period between April 1, 1920, and the date covered by this study. It will be observed that 27 of the pulp mills paid time and one-half for overtime and Sunday and holiday work; 15 establishments paid time and one-half for Sunday and holiday work and after 10 hours' work on week days; 2 establishments paid time and one-half for Sunday and holiday work and after 9 hours on week days; 5 establishments had changes in their overtime pay schedules, and 19 establishments paid various overtime rates, as noted in the table.

Tour, or shift, workers in both paper and pulp mills do not as a rule receive overtime pay except when working on some other job

than a tour job. When a tour worker works longer than his customary hours, he is considered by the majority of mills as working for the man on the next shift. A few mills do pay tour workers when working more than a certain number of hours or days, but this is not general. Tour workers, in most cases, receive the overtime rate for Sundays and holidays the same as other classes of labor in the mills.

There were no changes in overtime rates in the book-paper mills between April 1, 1920, and the period of this study. Six establishments paid time and one-half for overtime, Sunday, and holiday work; 4 establishments paid time and one-half for Sundays and holidays only; 1 establishment paid double time for Sundays, holidays, and overtime; 13 establishments had different rates of pay for overtime to the different classes of labor; 10 establishments did not pay an extra rate for overtime.

In 39 of the 40 newsprint establishments, 4 mills had changes in overtime, Sunday, and holiday pay; and 35 had no changes in overtime pay rates within the period of this study. Eighteen of the 35 establishments paid time and one-half for overtime, Sunday, and holiday work; 9 establishments paid time and one-half for Sundays and holidays and after 10 hours on week days; 2 establishments paid time and one-half for Sundays and holidays and after 9 hours on week days; 3 establishments paid time and one-half on Sundays and holidays only; 1 establishment paid time and one-half for Sundays and holidays and on week days, to mechanics only, after August 22, 1921; 1 establishment paid time and one-quarter on Sundays and holidays and after 8 hours on week days; 1 establishment paid time and one-half for Sundays and holidays and overtime and to tour workers after two weeks.

Eighteen of the 24 wrapping-paper establishments scheduled paid overtime in some form or another. Sixteen establishments did not change the overtime rate for the number of employees affected during the period of this study. Six establishments did not pay an extra rate for overtime.

Seventeen of the 20 writing-paper establishments paid extra for overtime in some form or another during the period of this study. Fourteen of the 17 establishments made no change between April 1, 1920, and the date of this investigation. Three of the 20 mills did not pay an extra rate for overtime.

TABLE 8.—NUMBER OF ESTABLISHMENTS PAYING EXTRA RATE FOR OVERTIME AND FOR SUNDAY AND HOLIDAY WORK, PERIOD COVERED, AND EMPLOYEES AFFECTED

PULP MILLS

Period	Rate of wages for—		Employees affected	Number of establishments
	Overtime	Sundays and holidays		
	Regular rate multiplied by—			
Apr. 1, 1920, to date of this study	1½	1½	All employees	27
Do	[1] 1½	1½	do	15
Do	1½	2	do	1
Do	[2] 1½	1½	do	2
Do	1	1½	do	5
Do	1	2	do	1
Apr. 1, 1920, to Aug. 16, 1921	1½	1½	do	1
Aug. 16, 1921, to Apr. 16, 1923	1	1		
Apr. 16, 1923, to date of this study	1½	1½		
Apr. 1, 1920, to May 20, 1921	1½	1½	do	1
May 20, 1921, to date of this study	1¼	1¼		
Apr. 1, 1920, to May 1, 1921	1½	1½	do	1
May 1, 1921, to date of this study	1¼	1¼		
Apr. 1, 1920, to Jan. 19, 1922	1½	1½	do	1
Jan. 19, 1922, to date of this study	1	1½		
Apr. 1, 1920, to Jan. 18, 1922	1½	1½	do	1
Jan. 18, 1922, to date of this study	1	1½		
Apr. 1, 1920, to date of this study	1¼	[3] 1¼	do	1
Do	1½	1½	[4]	1
Do	[5] 1½	1½	All employees	1
Do	[6] 1¼	1½	do	1
Do	1	1½	do	1
Do	1½	1	Repairmen	
Do	1	1½	do	1
Do	1	1½	Day workers	1
Do	1½	[7] 1½	All employees	1
Do	[8] 1½	1½	do	2
Do	1¼	1¼	do	1
Do	1	[9] 2	do	1
Total				68

BOOK-PAPER MILLS

Apr. 1, 1920, to date of this study	1½	1½	All employees	6
Do	1	1½	do	4
Do	2	2	do	1
Do	1½	1	Millwrights and carpenters	1
Do	1	1½	All other employees	
Do	1	1½	All employees	1
Do	1½	1	Repair men called 6 p. m. to 6 a. m.	
Do	1½	[7] 1½	All employees	1
Do	[1] 1½	1½	do	2
Do	[8] 1½	1½	do	1
Do	1	1½	do	2
Do	1½	1	Mechanical department	
Do	1	1½	All employees	1
Do	1¼	1	Yard labor	
Do	1½	1	Mechanical department	
Do	[10] 1½	1½	All employees	1
Do	1	1½	Repairmen	2
Do	1	[11] 1¼	Mechanics	1
Total				24

[1] After 10 hours.
[2] After 9 hours.
[3] After 8 hours.
[4] For workers after 2 weeks and the second shift of 2-shift men.
[5] Mechanics only; discontinued for common labor Aug. 22, 1921.
[6] Mechanics only.
[7] Double time for Christmas and Fourth of July.
[8] Between 7 p. m. and 7 a. m.
[9] Except for 7-day workers.
[10] From July 16, 1921, to date of this study, overtime paid for extra work only when worker called.
[11] Five hours' pay at regular rate for any call; for work over 5 hours, time and a quarter.

TABLE 8.—NUMBER OF ESTABLISHMENTS PAYING EXTRA RATE FOR OVERTIME AND SUNDAY AND HOLIDAY WORK, PERIOD COVERED, AND EMPLOYEES AFFECTED—Concluded

NEWSPRINT MILLS

Period	Rate of wages for—		Employees affected	Number of establishments
	Overtime	Sundays and holidays		
	Regular rate multiplied by—			
Apr. 1, 1920, to date of this study	1½	1½	All employees	18
Do	[1] 1½	1½	do	9
Do	[2] 1½	1½	do	2
Do	1	1½	do	2
Do	[5] 1½	1½	do	1
Do	[3] 1¼	1¼	do	1
Do	[4] 1½	1½	do	1
Do	1	1½	All employees except tour workers	1
Apr. 1, 1920, to Aug. 20, 1921	1	1½	All employees	1
Aug. 20, 1921, to date of this study	1	1½	Machine men and beater engineers	
Apr. 1, 1920, to May 20, 1921	1½	1½	All employees	1
May 20, 1921, to date of this study	1¼	1¼		
Apr. 1, 1920, to May 1, 1921	1½	1½	do	1
May 1, 1921, to date of this study	1¼	1¼		
Apr. 1, 1920, to Jan. 19, 1922	1½	1½	do	1
Jan. 19, 1922, to date of this study	1	1½		
Total				39

WRAPPING-PAPER MILLS

Apr. 1, 1920, to date of this study	1½	1½	All employees	5
Do	[12] 1½	1½	do	1
Do	[13] 1¼	[14] 1½	do	1
Do	1	1½	do	2
Do	1½	[15] 1½	do	1
Do	[8] 1½	1½	do	1
Do	1¼	1¼	do	1
Do	1	2	All employees except 7-day workers	1
Apr. 1, 1920, to Jan. 18, 1922	1½	1½	All employees	1
Jan. 18, 1922, to date of this study	1	1½		
Apr. 1, 1920, to Jan. 19, 1922	1½	1½	do	1
Jan. 19, 1922, to date of this study	1	1½		
Apr. 1, 1920, to date of this study	1	2	do	1
Do	1½	2	do	1
Do	1	1¼	do	1
Total				18

WRITING-PAPER MILLS

Apr. 1, 1920, to date of this study	1½	1½	All employees	5
July 1, 1920, to date of this study	[16] 1½	1½	do	2
Apr. 1, 1920, to date of this study	[2] 1½	1½	do	1
Apr. 1, 1920, to Aug. 16, 1921	1½	1½	do	
Aug. 16, 1921, to Apr. 16, 1923	1	1½	do	1
Apr. 16, 1923, to date of this study	1	1½	All employees except repairmen	
Apr. 1, 1920, to date of this study	1	1½	All employees	2
Do	1	1½	All employees except repairmen	1
Do	1½	1½	All employees except tour men	1
Do	1½	1½	Repair men and rag workers	1
Do	1	1½	Repair men	1
Do	2	2	do	2
Total				17

[1] After 10 hours.
[2] After 9 hours.
[3] After 8 hours.
[4] Four workers after 2 weeks and the second shift of 2-shift men.
[5] Mechanics only; discontinued for common labor Aug. 22, 1921.
[8] Between 7 p. m. and 7. a. m.
[12] Day workers, after 10 hours.
[13] Finishing room and mechanics only.
[14] From 7 a. m. to 7 p. m. only.
[15] Tour workers from 7 a. m. Sunday to 7 a. m. Monday.
[16] After 7 p. m.

DAYS WORKED IN ONE PAY PERIOD

Table 9 shows for the principal paper and pulp occupations average and specified number of days of work in the occupation, number of employees and average and specified number of days worked by employees during the pay periods for which data are presented. Data are presented separately for establishments in which employees are paid weekly and for establishments in which employees are paid every two weeks or semimonthly.

The word "days," as used in the table, means the number of calendar days or parts of days of work in the occupation during one pay period or the number of days or parts of days that employees worked during one pay period. Any part of a day worked is counted as a day.

The average number of days of work in the occupation was obtained by weighting the days of operation of each establishment by the number of employees in the occupation, without regard to the days worked by the individual employees.

The average number of days for employees in the occupation is a simple average, obtained by dividing the aggregate number of actual days worked by all employees in the occupation in all establishments by the total number of employees in the occupation.

For this table there have been selected 10 of the principal occupations in pulp mills; 8 in book-paper mills; 5 in newsprint mills; 7 in wrapping-paper mills; and 8 in writing-paper mills.

In several of the occupations the average for the employees is less than the average for the occupation, due to the fact that some employees did not work the entire time there was work in the occupation. In the cases where the average for the employees in the occupation equals the average for the occupation, all the employees in the occupation worked full time during the pay period covered. In the cases where the average for the employees in the occupation exceeds the average for the occupation some of the employees in the occupation worked overtime, in addition to full time during the pay period covered.

TABLE 9.—AVERAGE AND SPECIFIED NUMBER OF DAYS OF WORK IN OCCUPATION AND OF DAYS ACTUALLY WORKED BY EMPLOYEES, 1923, BY LENGTH OF PAY PERIOD, OCCUPATION, AND SEX

PULP MILLS

Occupation and sex	Number of establishments	Average number of days of work in occupation in pay period	Number of establishments in which days of work in occupation in pay period were—								Number of employees	Average number of days worked by employees in pay period	Number of employees in occupation who in one pay period worked specified number of days														
			5	6	7	12	13	14	15	16			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
One-week pay period																												
MALES																												
Grinder men	31	6.1	---	27	4	---	---	---	---	---	638	5.9	12	8	15	24	67	317	195	---	---	---	---	---	---	---	---	---
Acid makers	23	6.1	1	18	4	---	---	---	---	---	61	6.1	---	---	1	4	3	31	22	---	---	---	---	---	---	---	---	---
Cooks, sulphite	23	6.2	1	17	5	---	---	---	---	---	66	6.1	---	1	---	4	3	35	23	---	---	---	---	---	---	---	---	---
Cooks, sulphate	8	6.3	---	6	2	---	---	---	---	---	20	6.0	---	---	---	---	1	18	1	---	---	---	---	---	---	---	---	---
Blow-pit men	23	6.0	1	20	2	---	---	---	---	---	87	5.9	---	1	---	7	9	54	16	---	---	---	---	---	---	---	---	---
Diffuser men	8	6.1	---	7	1	---	---	---	---	---	22	5.7	---	1	---	1	2	16	2	---	---	---	---	---	---	---	---	---
Evaporator men	8	6.1	---	7	1	---	---	---	---	---	21	6.2	---	---	---	---	1	14	6	---	---	---	---	---	---	---	---	---
Caustic men	8	6.1	---	7	1	---	---	---	---	---	24	6.1	---	---	---	---	---	21	3	---	---	---	---	---	---	---	---	---
Laborers	48	6.0	1	47	---	---	---	---	---	---	2,534	5.6	62	61	137	161	276	1,388	449	---	---	---	---	---	---	---	---	---
FEMALES																												
Rag sorters	12	6.0	---	12	---	---	---	---	---	---	300	5.2	11	1	10	16	107	154	1	---	---	---	---	---	---	---	---	---
Two-week or half-month pay period																												
MALES																												
Grinder men	19	15.3	---	---	---	---	---	7	2	10	416	12.4	6	15	4	11	16	10	8	12	9	12	8	14	36	75	88	92
Acid makers	24	13.9	---	---	---	4	3	12	2	3	67	14.4	---	---	---	---	---	---	---	---	---	---	2	8	6	13	22	16
Cooks, sulphite	24	13.8	---	---	---	4	3	12	2	3	73	13.9	---	---	---	---	---	1	1	---	1	---	---	12	8	16	24	10
Cooks, sulphate	4	14.0	---	---	---	---	---	4	---	---	12	14.3	---	---	---	---	---	---	---	---	---	---	---	---	3	3	5	1
Blow-pit men	23	13.5	---	---	---	5	3	13	2	---	88	13.5	---	2	---	---	---	---	1	---	---	1	6	14	10	17	28	9
Diffuser men	5	13.6	---	---	---	1	---	4	---	---	15	13.3	---	---	1	---	---	---	---	---	---	1	---	3	---	3	4	3
Evaporator men	4	13.5	---	---	---	1	---	3	---	---	12	14.3	---	---	---	---	---	---	---	---	---	---	1	2	---	2	3	4
Caustic men	4	13.8	---	---	---	1	---	3	---	---	10	14.7	---	---	---	---	---	---	---	---	---	---	---	1	1	2	2	4
Laborers	33	13.7	---	---	---	6	5	22	---	---	2,659	10.4	104	126	94	120	105	114	71	103	90	97	141	245	236	602	280	131
FEMALES																												
Rag sorters	3	14.0	---	---	---	---	---	3	---	---	126	12.2	1	2	---	---	2	4	3	5	2	2	4	16	22	63	---	---

BOOK-PAPER MILLS

One-week pay period

MALES																															
Beater men	21	6.0		21							578	5.8	3	7	4	21	37	473	33												
Machine tenders	21	6.0		21							286	6.0		1	6	1	15	231	32												
Back tenders	21	6.0		21							291	6.0		3	2		12	240	34												
Third hands	20	6.0		20							255	5.8	2	1	6	10	24	180	32												
Calender men	13	6.0		13							244	5.9	1	1	2	4	10	217	9												
Laborers	21	6.0		21							791	5.7	12	13	25	37	51	612	41												
FEMALES																															
Sorters	10	6.0		10							315	5.8	2			10	25	278													
Counters	13	6.0		13							184	5.7		1	8	5	14	156													

Two-week or half-month pay period

MALES																															
Beater men	13	13.1				4	2	7			427	12.1	1	7	5	3	2	5	2	5	10	11	38	132	84	110	8	4			
Machine tenders	13	13.2				4	2	7			167	13.2				1	1	1	1				8	43	32	49	24	7			
Back tenders	13	13.2				4	2	7			185	12.9	1		1			2		1	1	3	11	55	37	41	26	6			
Third hands	12	13.2				4	1	7			154	12.3		3	1	3	4	3	1	2		3	9	39	22	40	17	7			
Calender men	11	13.0				4	1	6			201	12.4					2	2		1	2	8	24	73	13	76					
Laborers	13	13.1				4	2	7			414	11.9	5	2	7	2	6	8	5	10	10	12	21	130	72	106	13	5			
FEMALES																															
Sorters	7	12.6				2	2	3			248	12.0		2			3		2	2	5	9	25	128	28	44					
Counters	10	13.1				4	1	5			129	12.2					2	3	2	4		2	4	53	24	35					

NEWSPRINT MILLS

One-week pay period

MALES																															
Beater men	19	6.0		[1]19							227	5.8	3	3	4	6	23	167	21												
Machine tenders	24	6.0		24							267	5.9			6	2	13	242	4												
Back tenders	24	6.0		24							264	5.8			4	10	15	231	4												
Third hands	24	6.0		24							259	5.8	2		3	5	26	207	16												
Laborers	24	6.0		24							593	5.7	12	13	29	27	62	334	116												

[1] Includes 1 establishment working 7 days.

TABLE 9.—AVERAGE AND SPECIFIED NUMBER OF DAYS OF WORK IN OCCUPATION AND OF DAYS ACTUALLY WORKED BY EMPLOYEES, 1923, BY LENGTH OF PAY PERIOD, OCCUPATION, AND SEX—Concluded

NEWSPRINT MILLS—Concluded

Occupation and sex	Number of establishments	Average number of days of work in occupation in pay period	Number of establishments in which days of work in occupation in pay period were—								Number of employees	Average number of days worked by employees in pay period	Number of employees in occupation who in one pay period worked specified number of days														
			5	6	7	12	13	14	15	16			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Two-week or half-month pay period																											
MALES																												
Beater men	14	13.7	---	---	---	2	3	9	---	---	218	12.7	4	5	4	3	1	2	---	7	2	4	4	28	18	82	33	21
Machine tenders	16	13.8	---	---	---	2	3	11	---	---	151	13.5	---	---	---	---	1	1	---	2	3	4	1	14	27	64	28	6
Back tenders	16	13.8	---	---	---	2	3	11	---	---	155	13.3	---	1	---	---	---	1	---	2	3	1	4	19	26	69	24	4
Third hands	16	13.8	---	---	---	2	3	11	---	---	148	12.6	---	---	1	5	2	---	---	4	6	7	7	12	28	51	18	7
Laborers	16	13.9	---	---	---	2	3	11	---	---	418	11.3	6	11	14	17	14	15	12	13	20	7	12	33	44	130	43	27

WRAPPING-PAPER MILLS

	One-week pay period																											
MALES																												
Beater men	11	6.0	---	11	---	---	---	---	---	---	198	5.7	1	1	1	11	23	154	7	---	---	---	---	---	---	---	---	---
Machine tenders	11	6.0	---	11	---	---	---	---	---	---	97	5.9	---	---	1	3	4	83	6	---	---	---	---	---	---	---	---	---
Back tenders	11	6.0	---	11	---	---	---	---	---	---	97	5.9	1	1	1	---	6	82	6	---	---	---	---	---	---	---	---	---
Third hands	11	6.0	---	11	---	---	---	---	---	---	93	5.7	1	1	1	5	11	67	7	---	---	---	---	---	---	---	---	---
Laborers	9	6.0	---	9	---	---	---	---	---	---	285	5.6	2	9	8	6	31	219	10	---	---	---	---	---	---	---	---	---
FEMALES																												
Counters	5	6.0	---	5	---	---	---	---	---	---	28	5.9	---	---	---	---	3	25	---	---	---	---	---	---	---	---	---	---

	Two-week or half-month pay period																														
MALES																															
Beater men	13	13.4				3	1	9			212	12.6	1		3		3	3	4	3	4	4	8	40	30	97	8	4			
Machine tenders	13	13.6				3	1	9			137	13.5		1						1	1	3	2	24	11	74	19	1			
Back tenders	13	13.6				3	1	9			138	13.2		1				1	1	1	1	4	1	27	20	64	16	1			
Third hands	13	13.6				3	1	9			129	13.4						1	2		1	3	4	21	24	50	17	6			
Calender men	2	14.0						2			5	13.6												1		4					
Laborers	15	13.6				4	1	10			349	12.2	4	4	5	5	5	10	4	8	10	13	6	70	41	112	33	19			
FEMALES																															
Counters	6	13.6				1	1	4			37	12.4				1	1		1			1	2	7	8	16					

WRITING-PAPER MILLS

	One-week pay period																														
MALES																															
Beater men	17	6.0		17							355	5.8	2	3	4	12	37	289	8												
Machine tenders	17	6.0		17							137	5.9			4	2	3	119	9												
Back tenders	17	6.0		17							140	5.9	1	1	2	3	7	111	15												
Third hands	17	6.0		17							120	5.7	2	3	1	3	9	94	8												
Calender men	13	6.0		13							74	5.8	1			4	5	63	1												
Laborers	17	6.0		17							320	5.7	2	3	11	12	37	239	16												
FEMALES																															
Sorters	11	6.0		11							106	5.5	1		4	9	18	74													
Counters	14	6.0		14							190	5.7		2	3	7	27	151													

	Two-week or half-month pay period																														
MALES																															
Beater men	3	14.0						3			81	13.5				1		2		1				4	9	56	4	4			
Machine tenders	3	14.0						3			31	14.2											1		1	20	8	1			
Back tenders	3	14.0						3			33	14.0											2		1	24	4	2			
Third hands	3	14.0						3			32	13.9											1	2	3	20	6				
Calender men	3	14.0						3			16	14.2														13	3				
Laborers	3	14.0						3			76	13.0			1	1		3		1	1		2	7	5	52	2	1			
FEMALES																															
Sorters	3	14.0						3			54	14.0		1				2			2	1	1	6	3	38					
Counters	2	14.0						2			23	13.8												1	2	20					

Table 10 shows for each region and for all regions combined average and classified days of operation and classified days of nonoperation during the year ending March 31, 1923.

Because of the varied modes of operation in pulp mills data are shown separately for the three departments scheduled. In the ground-wood or mechanical pulp departments the days of operation are generally governed by the water power available. Because the wood is cooked in the sulphite and sulphate departments, the days of operation are not governed by the supply of water power available.

It will be noted that data are given for 106 establishments under "Pulp mills" in Table 10, while in the other tables in this report only 81 establishments are shown. This is because in Table 10 data are shown separately for each pulp department and as mills often have two pulp departments, each of them has been treated as a distinct unit.

The days of operation of ground-wood pulp departments during the year ending March 31, 1923, ranged from 120 to 365 days, the average being 309 days. The difference between the average days of operation, 309, and a possible full time of 365 days was due, as shown in the table, to the 49 departments being closed an average of 26 Sundays, 3 holidays, 6 days on account of market conditions, 21 days because of lack of power, 1 day because of lack of material, and less than 1 day for repairs.

The days of operation of sulphite-pulp departments ranged from 6 to 365, the average being 296; of the sulphate-pulp departments from 207 to 309, the average being 290; of the book-paper establishments from 236 to 311, the average being 299; of the newsprint establishments from 158 to 317, the average being 300; of the wrapping-paper establishments from 258 to 311, the average being 304, and of the writing-paper establishments from 217 to 311, the average being 284.

TABLE 10.—AVERAGE AND CLASSIFIED DAYS OF OPERATION AND AVERAGE NUMBER OF DAYS IDLE FROM SPECIFIED CAUSES DURING YEAR ENDING MARCH 31, 1923, BY REGION

PULP MILLS

Region	Number of establishments	Average number of days of operation in year	Number of establishments in which days of operation were—											Average number of days idle during year on account of—					
			Under 100	100 and under 150	150 and under 250	250 and under 275	275 and under 300	300 and under 310	310 and under 320	320 and under 340	340 and under 350	350 and under 360	360 and over	Sundays	Holidays	Market conditions	Lack of power	Lack of material	Repairs
GROUND-WOOD PULP																			
New England	14	306	-----	-----	1	-----	2	2	5	1	3	-----	-----	39	4	3	13	-----	-----
New York	17	313	-----	1	1	-----	1	1	4	3	1	1	4	24	3	13	13	-----	-----
Michigan and Ohio	3	311	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	2	-----	2	-----	52	-----	-----
Wisconsin and Minnesota	10	337	-----	-----	-----	1	-----	1	1	1	1	1	4	15	2	2	2	7	-----
Pacific coast	5	243	-----	1	1	1	-----	1	-----	-----	-----	-----	1	31	1	-----	88	-----	2
Total	49	309	-----	2	4	2	3	5	10	5	5	2	11	26	3	6	21	1	(1)
SULPHITE PULP																			
New England	11	290	-----	-----	1	-----	7	-----	3	-----	-----	-----	-----	50	4	16	-----	-----	6
New York	12	273	1	1	-----	1	1	3	3	-----	1	-----	1	39	3	48	2	-----	1
Pennsylvania, Maryland, and Virginia	5	296	-----	-----	-----	-----	4	1	-----	-----	-----	-----	-----	52	6	3	5	-----	4
Michigan and Ohio	5	316	-----	-----	-----	-----	1	2	1	-----	-----	-----	1	42	3	3	-----	-----	1
Wisconsin and Minnesota	9	312	-----	-----	-----	1	-----	2	5	-----	-----	-----	1	43	3	-----	3	4	-----
Pacific coast	5	318	-----	-----	-----	-----	1	1	2	-----	-----	-----	1	41	1	-----	-----	-----	5
Total	47	296	1	1	1	2	14	9	14	-----	1	-----	4	44	3	16	2	1	3
SULPHATE PULP																			
New England	[2] 2	203	-----	-----	-----	-----	-----	2	-----	-----	-----	-----	-----	52	5	3	4	-----	-----
Pennsylvania, Maryland, and Virginia	2	250	-----	-----	1	-----	1	-----	-----	-----	-----	-----	-----	52	2	-----	-----	6	56
Michigan and Ohio	1	309	-----	-----	-----	-----	-----	1	-----	-----	-----	-----	-----	52	4	-----	-----	-----	-----
Wisconsin and Minnesota	[2] 3	308	-----	-----	-----	-----	-----	3	-----	-----	-----	-----	-----	51	3	-----	2	-----	-----
Louisiana	[2] 2	279	-----	-----	-----	1	-----	1	-----	-----	-----	-----	-----	52	2	-----	-----	-----	33
Total	[3] 10	290	-----	-----	1	1	1	7	-----	-----	-----	-----	-----	52	3	1	1	1	18

[1] Less than 1 day.

[2] Not including 1 establishment not reported.

[3] Not including 3 establishments not reported.

TABLE 10.—AVERAGE AND CLASSIFIED DAYS OF OPERATION AND AVERAGE NUMBER OF DAYS IDLE FROM SPECIFIED CAUSES DURING YEAR ENDING MARCH 31, 1923, BY REGION—Concluded

BOOK-PAPER MILLS

Region	Number of establishments	Average number of days of operation in year	Number of establishments in which days of operation were—							Average number of days idle during year on account of—						
			Under 200	200 and under 250	250 and under 275	275 and under 300	300 and under 305	305 and under 310	310 and over	Sundays	Holidays	Market conditions	Lack of power	Lack of material	Repairs	Other
New England	8	299			1	2		3	2	52	5	6	2		2	
New York	6	305				2		4		52	4			2	2	
Pennsylvania, Maryland, and Virginia	11	293		1	1	5		3	1	52	4	15			2	
Michigan and Ohio	7	303				3			4	52	4	2	(1)		3	2
Wisconsin and Minnesota	2	307						1	1	52	3	4				
Total	34	299		1	2	12		11	8	52	4	7	1	(1)	2	(1)

NEWSPRINT MILLS

New England	10	296		1		1		5	3	51	4	2	(1)		3	
New York	14	295	1			1	4	4	4	52	4	11	1	1	1	
Michigan and Ohio	2	310							2	52	3					
Wisconsin and Minnesota	9	305				2		5	2	52	3		1	1	2	
Pacific Coast	5	310					1		4	51	1				3	
Total	40	300	1	1		4	5	14	15	52	3	6	1	1	2	

WRAPPING-PAPER MILLS

New England	5	302				2	1		2	52	4	3	1		2	
New York	4	310						2	2	52	3				1	
Pennsylvania, Maryland, and Virginia	4	301				2		1	1	52	3	4	1		4	
Michigan and Ohio	5	299			1			3	1	52	4				10	
Wisconsin and Minnesota	6	309						5	1	52	3		1		(1)	
Total	24	304			1	4	1	11	7	52	3	1	1		3	

New England	8	272	----	1	3	3	----	1	----	52	6	29	----	----	7	----	
Pennsylvania, Maryland, and Virginia	2	309	----	----	----	----	----	1	1	52	5	----	----	----	----	----	
Michigan and Ohio	7	283	----	1	----	3	2	1	----	52	5	19	(1)	----	4	[5] 1	
Wisconsin and Minnesota	3	303	----	----	----	1	1	----	1	52	3	----	1	----	5	[6] 2	
Total	20	284	----	2	3	7	3	3	2	52	5	18	(1)	----	5	1	

[1] Less than 1 day.

[4] Vacation.

[5] Inventory.

[6] Strike.

GENERAL TABLES

In addition to the text tables already shown, five general tables are presented, as follows:

Table A.—Average earnings per hour, full-time earnings per week, full-time hours per week, and classified full-time hours per week, 1923, by occupation, sex, and region.

Table B.—Average number of days worked by establishments and employees, and average hours and earnings, 1923, by occupation, sex, length of pay period, and region.

Table C.—Average and classified earnings per hour in selected occupations, 1923, by occupation, sex, and region.

Table D.—Average and classified actual hours of employees in selected occupations who worked on as many days as there was work in the occupation during the pay period, 1923, by occupation, sex, and region.

Table E.—Average and classified earnings of employees in selected occupations who worked on as many days as there was work in the occupation during the pay period, 1923, by occupation, sex, and region.

In Table B "Average full-time hours per day period" and "Average hours actually worked in one pay period" are presented in parallel columns, in order that the regular hours during which, under normal conditions, it is possible for employees in an occupation to work may be compared with the hours actually worked during one pay period by all the employees in the occupation, including those who worked less than the hours of opportunity.

Tables C, D, and E are limited to 10 pulp, 8 book-paper, 5 newsprint, 7 wrapping-paper, and 8 writing-paper occupations.

The data in Tables D and E are shown in two sections because some establishments had two-week or half-month pay rolls, and a separation of the data to obtain a one-week pay roll was impracticable.

In Tables D and E the average full-time hours and earnings per pay period are given for all of the employees covered in each of the selected occupations. In addition these tables show the average and classified hours actually worked and the average and classified earnings actually received by those employees who worked on as many days as there was opportunity for work in the occupation in the pay period.

All employees who worked less than the number of days for which there was opportunity for work, have been excluded from the tables showing average and classified hours actually worked and average and classified earnings actually received, because it is the purpose of these tables to show as nearly as possible the actual hours and earnings of employees who worked all the time there was opportunity to work and to compare therewith the average hours and earnings that would have been made had every employee worked the regular or customary full-time hours per week. This assumes that every employee would have earned the same average per hour during the full-time as was earned during the time actually worked in the pay period covered.

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION

PULP MILLS

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—												
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES																				
Barker men:																				
New England	13	100	$0.455	$23.84	52.4	----	58	----	----	11	3	----	----	----	28	----	----	----	----	----
New York	8	35	.437	22.86	52.3	----	16	----	----	----	13	----	----	----	6	----	----	----	----	----
Michigan and Ohio	3	36	.463	25.37	54.8	----	----	----	----	----	10	25	----	1	----	----	----	----	----	----
Wisconsin and Minnesota	6	25	.425	22.74	53.5	----	2	----	----	----	23	----	----	----	----	----	----	----	----	----
Pacific coast	5	94	.444	22.51	50.7	----	51	----	----	----	43	----	----	----	----	----	----	----	----	----
Total	35	290	.448	23.39	52.2	----	127	----	----	11	92	25	----	1	34	----	----	----	----	----
Splitter men:																				
New England	11	33	.473	23.98	50.7	----	18	----	2	5	6	----	----	----	2	----	----	----	----	----
New York	9	11	.440	23.94	54.4	----	3	----	----	----	4	----	----	1	3	----	----	----	----	----
Michigan and Ohio	3	6	.505	27.27	54.0	----	----	----	----	----	6	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	9	32	.424	22.64	53.4	----	3	----	----	----	29	----	----	----	----	----	----	----	----	----
Pacific coast	4	37	.450	23.58	52.4	----	10	----	----	----	27	----	----	----	----	----	----	----	----	----
Total	36	119	.451	23.68	52.5	----	34	----	2	5	72	----	----	1	5	----	----	----	----	----
Chipper men:																				
New England	14	49	.472	24.78	52.5	----	30	----	1	3	4	----	----	----	7	----	----	----	4	----
New York	11	26	.461	23.60	51.2	----	18	----	----	----	1	----	----	3	4	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	7	31	.471	27.93	59.3	----	9	----	----	----	----	----	----	----	11	1	6	----	4	----
Michigan and Ohio	3	7	.493	26.62	54.0	----	----	----	----	----	7	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	11	35	.444	24.20	54.5	----	7	----	----	----	18	----	----	----	10	----	----	----	----	----
Pacific coast	5	48	.448	22.71	50.7	----	26	----	----	----	22	----	----	----	----	----	----	----	----	----
Louisiana	3	4	.207	13.66	66.0	----	----	----	----	----	1	----	----	----	----	----	----	1	2	----
Total	54	200	.455	24.43	53.7	----	90	----	1	3	53	----	----	3	32	1	7	----	10	----

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Continued

PULP MILLS—Continued

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—													
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES—continued																			
Grinder men:																			
New England	14	278	$0.526	$26.62	50.6	-----	202	-----	-----	-----	-----	-----	68	-----	-----	-----	-----	-----	8	-----
New York	17	360	.495	25.05	50.6	-----	288	-----	-----	43	-----	-----	-----	-----	-----	-----	-----	-----	29	-----
Michigan and Ohio	3	51	.472	26.43	56.0	-----	-----	-----	-----	-----	-----	-----	51	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	11	150	.469	25.80	55.0	-----	19	-----	-----	-----	-----	-----	131	-----	-----	-----	-----	-----	-----	-----
Pacific coast	5	215	.487	25.86	53.1	-----	78	-----	-----	-----	-----	-----	137	-----	-----	-----	-----	-----	-----	-----
Total	50	1,054	.497	25.84	52.0	-----	587	-----	-----	43	-----	-----	387	-----	-----	-----	-----	-----	37	-----
Acid makers:																			
New England	11	32	.671	33.82	50.4	-----	20	-----	-----	3	-----	3	6	-----	-----	-----	-----	-----	-----	-----
New York	12	29	.595	34.39	57.8	-----	10	-----	-----	9	-----	-----	-----	-----	-----	-----	-----	-----	8	2
Pennsylvania, Maryland, and Virginia	5	12	.589	35.34	60.0	-----	6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	6	-----
Michigan and Ohio	5	13	.631	37.29	59.1	-----	3	-----	-----	-----	-----	-----	6	-----	-----	-----	-----	-----	4	-----
Wisconsin and Minnesota	9	27	.593	29.53	49.8	-----	21	-----	-----	-----	-----	-----	6	-----	-----	-----	-----	-----	-----	-----
Pacific coast	5	15	.597	29.61	49.6	-----	12	-----	-----	-----	-----	-----	3	-----	-----	-----	-----	-----	-----	-----
Total	47	128	.617	33.07	53.6	-----	72	-----	-----	12	-----	3	21	-----	-----	-----	-----	-----	18	2
Cooks, sulphite:																			
New England	11	34	.743	37.74	50.8	-----	20	-----	-----	3	-----	3	8	-----	-----	-----	-----	-----	-----	-----
New York	12	32	.682	37.92	55.6	-----	12	-----	-----	12	-----	-----	-----	-----	-----	-----	-----	-----	6	2
Pennsylvania, Maryland, and Virginia	5	16	.757	47.69	63.0	-----	6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	10	-----
Michigan and Ohio	5	13	.655	38.71	59.1	-----	3	-----	-----	-----	-----	-----	6	-----	-----	-----	-----	-----	4	-----
Wisconsin and Minnesota	9	28	.697	34.64	49.7	-----	22	-----	-----	-----	-----	-----	6	-----	-----	-----	-----	-----	-----	-----
Pacific coast	5	16	.646	31.98	49.5	-----	13	-----	-----	-----	-----	-----	3	-----	-----	-----	-----	-----	-----	-----
Total	47	139	.702	37.70	53.7	-----	76	-----	-----	15	-----	3	23	-----	-----	-----	-----	-----	20	2

Cooks, sulphate:																			
New England	3	9	.640	32.45	50.7		6						3						
Pennsylvania, Maryland, and Virginia	2	4	.443	31.90	72.0													4	
Wisconsin and Minnesota	4	12	.627	30.10	48.0		12												
Louisiana	3	7	.473	29.18	61.7		3											4	
Total	12	32	.574	31.46	54.8		21						3					8	
Blow-pit men:																			
New England	11	49	.508	24.99	49.2		40			3		6							
New York	12	38	.452	25.00	55.3		24			3							5	6	
Pennsylvania, Maryland, and Virginia	5	18	.469	28.14	60.0		9											9	
Michigan and Ohio	4	14	.490	25.19	51.4		12											2	
Wisconsin and Minnesota	9	35	.455	22.34	49.1		26			6			3						
Pacific coast	5	21	.462	22.18	48.0		21												
Total	46	175	.474	24.51	51.7		132			12		6	3				5	17	
Diffuser men:																			
New England	3	9	.599	30.37	50.7		6						3						
Pennsylvania, Maryland, and Virginia	2	6	.413	29.74	72.0													6	
Wisconsin and Minnesota	5	15	.532	25.54	48.0		15												
Louisiana	3	7	.405	24.99	61.7		3											4	
Total	13	37	.505	27.83	55.1		24						3					10	
Evaporator men:																			
New England	3	9	.544	27.58	50.7		6						3						
Pennsylvania, Maryland, and Virginia	2	4	.432	31.10	72.0													4	
Wisconsin and Minnesota	4	12	.532	25.54	48.0		12												
Louisiana	3	7	.407	25.11	61.7		3											4	
Total	12	32	.496	27.18	54.8		21						3					8	
Recovery men:																			
New England	3	38	.542	27.37	50.5		26						12						
Pennsylvania, Maryland, and Virginia	2	20	.324	23.33	72.0													20	
Wisconsin and Minnesota	4	42	.520	24.96	48.0		42												
Louisiana	3	33	.274	19.13	69.8		3											30	
Total	12	133	.436	25.16	57.7		71						12					50	
Caustic men:																			
New England	3	9	.611	30.98	50.7		6						3						
Pennsylvania, Maryland, and Virginia	2	6	.381	27.43	72.0													6	
Wisconsin and Minnesota	4	10	.546	26.21	48.0		10												
Louisiana	3	9	.413	26.43	64.0		3											6	
Total	12	34	.499	28.54	57.2		19						3					12	

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Continued

PULP MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—												
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES—concluded.																		
Screen men:																		
New England	17	77	$0.508	$25.50	50.2	----	60	----	----	----	----	3	12	----	----	----	----	----	2	----
New York	12	58	.483	25.31	52.4	----	45	----	----	3	----	----	----	----	----	----	----	2	8	----
Pennsylvania, Maryland, and Virginia	6	34	.438	26.89	61.4	----	15	----	----	----	----	----	----	----	----	----	----	----	19	----
Michigan and Ohio	5	22	.523	26.25	50.2	----	20	----	----	----	----	----	----	----	----	----	----	----	2	----
Wisconsin and Minnesota	8	53	.459	23.27	50.7	----	31	----	----	6	----	----	16	----	----	----	----	----	----	----
Pacific coast	4	31	.478	23.66	49.5	----	25	----	----	----	----	----	6	----	----	----	----	----	----	----
Louisiana	3	17	.221	14.98	67.8	----	3	----	----	----	----	----	----	----	----	----	----	----	14	----
Total	55	292	.467	24.75	53.0	----	199	----	----	9	----	3	34	----	----	----	----	2	45	----
Head pressmen:																		
New England	14	45	.613	30.16	49.2	----	38	----	----	----	----	----	7	----	----	----	----	----	----	----
New York	10	33	.583	33.17	56.9	----	15	----	----	3	----	----	5	----	----	----	----	2	8	----
Pennsylvania, Maryland, and Virginia	5	11	.532	34.85	65.5	----	3	----	----	----	----	----	----	----	----	----	----	----	8	----
Michigan and Ohio	5	15	.562	28.77	51.2	----	9	----	----	----	----	----	6	----	----	----	----	----	----	----
Wisconsin and Minnesota	13	52	.547	28.33	51.8	----	25	----	----	3	----	----	24	----	----	----	----	----	----	----
Pacific coast	5	31	.514	26.78	52.1	----	15	----	----	----	----	----	16	----	----	----	----	----	----	----
Louisiana	2	4	.458	32.98	72.0	----	----	----	----	----	----	----	----	----	----	----	----	----	4	----
Total	54	191	.562	29.95	53.3	----	105	----	----	6	----	----	58	----	----	----	----	2	20	----
Pressmen:																		
New England	17	214	.490	22.05	45.0	----	185	----	----	----	----	----	21	----	----	----	----	----	8	----
New York	18	235	.460	23.78	51.7	----	182	----	----	21	----	----	----	----	----	----	----	11	21	----
Pennsylvania, Maryland, and Virginia	6	52	.521	32.61	62.6	----	20	----	----	----	----	----	----	----	----	----	----	----	32	----
Michigan and Ohio	8	78	.482	25.11	52.1	----	42	----	----	----	----	----	34	----	----	----	----	----	2	----
Wisconsin and Minnesota	14	168	.449	22.81	50.8	1	90	----	----	26	----	----	51	----	----	----	----	----	----	----
Pacific coast	5	234	.454	22.97	50.6	----	157	----	----	----	----	----	77	----	----	----	----	----	----	----
Louisiana	2	11	.250	18.00	72.0	----	----	----	----	----	----	----	----	----	----	----	----	----	11	----
Total	70	992	.466	23.63	50.7	1	676	----	----	47	----	----	183	----	----	----	----	11	74	----

Rag washermen:																			
New England	8	28	.638	30.69	48.1	-----	27	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	3	6	.565	32.77	58.0	-----	4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2
Wisconsin and Minnesota	3	28	.467	22.42	48.0	-----	28	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	14	62	.554	27.15	49.0	-----	59	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----	2
Rag workers, other:																			
New England	8	69	.478	23.85	49.9	-----	3	-----	66	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	4	16	.462	24.21	52.4	-----	2	-----	5	5	-----	-----	-----	4	-----	-----	-----	-----	-----
Wisconsin and Minnesota	3	40	.397	21.36	53.8	-----	-----	-----	-----	6	34	-----	-----	-----	-----	-----	-----	-----	-----
Total	15	125	.450	23.18	51.5	-----	5	-----	71	11	34	-----	-----	4	-----	-----	-----	-----	-----
Laborers:																			
New England	22	1,199	.436	22.41	50.2	-----	742	-----	29	74	82	-----	61	35	167	-----	-----	9	-----
New York	20	1,151	.427	22.20	52.0	-----	628	-----	-----	57	282	-----	-----	34	108	-----	-----	42	-----
Pennsylvania, Maryland, and Virginia	7	331	.385	22.91	59.5	-----	58	-----	-----	-----	82	-----	-----	26	41	12	57	55	-----
Michigan and Ohio	8	378	.466	24.65	52.9	-----	133	-----	-----	-----	128	12	41	31	33	-----	-----	-----	-----
Wisconsin and Minnesota	16	1,513	.407	21.86	53.7	-----	239	-----	-----	9	1,042	-----	75	76	70	-----	2	-----	-----
Pacific coast	5	579	.427	22.76	53.3	-----	106	-----	-----	-----	349	-----	124	-----	-----	-----	-----	-----	-----
Louisiana	3	42	.202	14.26	70.6	-----	-----	-----	-----	-----	3	-----	-----	-----	-----	-----	1	38	-----
Total	81	5,193	.422	22.45	53.2	-----	1,906	-----	29	140	1,968	12	301	202	419	12	60	144	-----
Other employees:																			
New England	22	791	.546	27.68	50.7	-----	519	-----	18	60	51	10	66	-----	47	3	2	13	2
New York	20	625	.534	28.84	54.0	-----	314	-----	-----	37	111	-----	27	5	57	1	3	37	18
Pennsylvania, Maryland, and Virginia	7	405	.512	29.03	56.7	-----	116	-----	-----	-----	172	-----	-----	8	25	-----	2	75	7
Michigan and Ohio	8	228	.545	28.67	52.6	-----	107	-----	-----	-----	57	4	26	13	10	-----	-----	10	1
Wisconsin and Minnesota	16	775	.493	25.78	52.3	1	352	-----	-----	26	244	-----	71	23	41	3	1	3	9
Pacific coast	5	415	.500	26.00	52.0	-----	155	-----	-----	-----	222	-----	33	-----	-----	-----	-----	4	1
Louisiana	3	68	.259	16.89	65.2	-----	19	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	47	1
Total	81	3,307	.515	27.30	53.0	1	1,582	-----	18	123	858	14	223	49	180	7	8	16	189	39
FEMALES																			
Rag sorters:																			
New England	8	257	.352	16.90	48.0	-----	257	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	4	43	.359	17.38	48.4	11	2	-----	30	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	3	126	.275	14.71	53.5	-----	-----	-----	-----	41	85	-----	-----	-----	-----	-----	-----	-----	-----
Total	15	426	.330	16.40	49.7	11	259	-----	30	41	85	-----	-----	-----	-----	-----	-----	-----	-----
Rag workers, other:																			
New England	5	35	.401	19.25	48.0	-----	35	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	2	15	.304	16.42	54.0	-----	-----	-----	-----	-----	15	-----	-----	-----	-----	-----	-----	-----	-----
Total	7	50	.372	18.53	49.8	-----	35	-----	-----	-----	15	-----	-----	-----	-----	-----	-----	-----	-----

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Continued

BOOK-PAPER MILLS

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—													
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES																				
Beater engineers:																				
New England	8	96	$0.719	$34.51	48.0	-----	96	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	6	35	.751	36.05	48.0	-----	35	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	11	58	.680	34.34	50.5	-----	52	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	6	-----
Michigan and Ohio	6	46	.661	32.59	49.3	-----	42	-----	-----	-----	-----	-----	-----	-----	-----	4	-----	-----	-----	-----
Wisconsin and Minnesota	2	12	.581	28.18	48.5	-----	11	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	33	247	.697	34.01	48.8	-----	236	-----	-----	-----	1	-----	-----	-----	-----	4	-----	-----	6	-----
Beater men:																				
New England	8	298	.505	24.24	48.0	-----	298	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	6	136	.472	25.16	53.3	-----	106	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	30	-----
Pennsylvania, Maryland, and Virginia	11	268	.479	24.62	51.4	-----	230	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	38	-----
Michigan and Ohio	7	251	.492	24.11	49.0	-----	234	-----	-----	-----	-----	-----	-----	-----	-----	17	-----	-----	-----	-----
Wisconsin and Minnesota	2	52	.455	21.84	48.0	-----	52	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	34	1,005	.488	24.35	49.9	-----	920	-----	-----	-----	-----	-----	-----	-----	-----	17	-----	-----	68	-----
Size makers:																				
New England	8	11	.543	27.86	51.3	-----	8	-----	1	-----	-----	-----	-----	-----	1	-----	-----	1	-----	-----
New York	6	12	.471	26.99	57.3	1	2	-----	-----	-----	3	-----	-----	-----	4	-----	-----	-----	2	-----
Pennsylvania, Maryland, and Virginia	10	15	.449	24.87	55.4	-----	3	-----	-----	1	7	-----	-----	-----	1	1	2	-----	-----	-----
Michigan and Ohio	5	8	.516	27.76	53.8	-----	2	-----	2	-----	1	-----	-----	-----	3	-----	-----	-----	-----	-----
Wisconsin and Minnesota	2	2	.525	28.35	54.0	-----	-----	-----	-----	-----	2	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	31	48	.490	26.75	54.6	1	15	-----	3	1	13	-----	-----	-----	9	1	2	1	2	-----
Machine tenders:																				
New England	8	146	.833	39.98	48.0	-----	146	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	6	66	.875	42.00	48.0	-----	66	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	11	120	.820	42.31	51.6	-----	102	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	18	-----
Michigan and Ohio	7	100	.798	39.26	49.2	-----	92	-----	-----	-----	-----	-----	-----	-----	-----	8	-----	-----	-----	-----

Wisconsin and Minnesota	2	21	.770	36.96	48.0		21												
Total	34	453	.825	40.59	49.2		427								8			18	
Back tenders:																			
New England	8	149	.601	28.85	48.0		149												
New York	6	66	.672	32.26	48.0		66												
Pennsylvania, Maryland, and Virginia	11	137	.602	30.76	51.2		119											18	
Michigan and Ohio	7	102	.597	29.25	49.0		95								7				
Wisconsin and Minnesota	2	22	.582	27.94	48.0		22												
Total	34	476	.609	29.90	49.1		451								7			18	
Third hands:																			
New England	7	118	.531	25.49	48.0		118												
New York	6	66	.583	27.98	48.0		66												
Pennsylvania, Maryland, and Virginia	10	105	.477	24.71	51.8		88											17	
Michigan and Ohio	7	100	.495	24.35	49.2		92								8				
Wisconsin and Minnesota	2	20	.479	22.99	48.0		20												
Total	32	409	.514	25.34	49.3		384								8			17	
Fourth hands:																			
New England	5	63	.481	23.09	48.0		63												
New York	5	56	.542	26.02	48.0		56												
Pennsylvania, Maryland, and Virginia	7	75	.461	22.40	48.6		73											2	
Michigan and Ohio	5	72	.453	22.47	49.6		64								8				
Wisconsin and Minnesota	2	23	.433	20.78	48.0		23												
Total	24	289	.477	23.18	48.6		279								8			2	
Coating-machine runners:																			
New England	2	43	.724	34.75	48.0		43												
Michigan and Ohio	3	85	.557	27.35	49.1		70				15								
Total	5	128	.613	29.85	48.7		113				15								
Calender men:																			
New England	5	135	.648	31.36	48.4		129		2					4					
New York	4	55	.614	29.66	48.3		53					2							
Pennsylvania, Maryland, and Virginia	7	102	.517	25.85	50.0		76				19		3	4					
Michigan and Ohio	6	133	.542	26.23	48.4		127				4		1			1			
Wisconsin and Minnesota	2	20	.530	25.44	48.0		20												
Total	24	445	.577	28.10	48.7		405		2		23	2	4	8		1			
Cutter men:																			
New England	5	33	.504	25.00	49.6		16		12		5								
New York	2	11	.512	28.06	54.8						2	9							
Pennsylvania, Maryland, and Virginia	8	41	.467	26.25	56.2					1	14	22					2		2
Michigan and Ohio	7	119	.457	23.81	52.1		48		2		23	46							
Total	22	204	.470	24.77	52.7		64		14	1	44	77					2		2

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Continued

BOOK-PAPER MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—													
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES—concluded																			
Plater men:																			
Michigan and Ohio	2	10	$0.567	$30.84	54.4	----	----	----	2	----	----	8	----	----	----	----	----	----	----	----
Trimmer men:																			
New England	3	13	.635	33.27	52.4	----	----	----	4	5	4	----	----	----	----	----	----	----	----	----
New York	4	17	.603	33.77	56.0	----	----	----	----	----	6	10	----	----	----	----	----	----	----	1
Pennsylvania, Maryland, and Virginia	4	14	.561	30.91	55.1	----	----	----	----	----	9	3	----	----	2	----	----	----	----	----
Michigan and Ohio	6	62	.575	28.58	49.7	----	40	----	10	----	4	8	----	----	----	----	----	----	----	----
Total	17	106	.585	30.24	51.7	----	40	----	14	5	23	21	----	----	2	----	----	----	----	1
Packers:																			
New England	6	83	.552	28.10	50.9	----	24	----	28	----	31	----	----	----	----	----	----	----	----	----
New York	6	117	.493	26.82	54.4	----	----	----	----	----	71	46	----	----	----	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	11	134	.560	30.13	53.8	----	3	12	----	18	77	9	----	15	----	----	----	----	----	----
Michigan and Ohio	7	120	.482	25.50	52.9	----	3	----	47	----	22	48	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	22	.439	23.84	54.3	----	----	----	----	----	15	7	----	----	----	----	----	----	----	----
Total	32	476	.517	27.50	53.2	----	30	12	75	18	216	110	----	15	----	----	----	----	----	----
Laborers:																			
New England	8	362	.470	24.21	51.5	----	98	----	51	137	74	----	----	----	----	----	2	----	----	----
New York	6	237	.435	24.27	55.8	----	29	----	----	----	140	25	----	15	----	----	----	----	27	1
Pennsylvania, Maryland, and Virginia	11	256	.400	22.36	55.9	----	7	----	----	26	119	17	----	21	60	----	----	----	6	----
Michigan and Ohio	7	272	.411	21.62	52.6	----	44	----	91	----	64	50	----	----	21	----	----	----	2	----
Wisconsin and Minnesota	2	78	.403	21.44	53.2	----	----	----	15	----	63	----	----	----	----	----	----	----	----	----
Total	34	1,205	.431	23.10	53.6	----	178	----	157	163	460	92	----	36	81	----	2	----	35	1
Other employees:																			
New England	8	1,384	.546	27.79	50.9	----	628	----	87	416	216	----	12	----	22	----	1	----	----	2
New York	6	660	.552	28.76	52.1	----	345	----	2	----	257	1	6	3	6	2	3	2	25	8
Pennsylvania, Maryland, and Virginia	11	1,141	.474	25.73	54.4	----	444	6	1	6	291	38	9	104	157	1	9	2	53	20

Michigan and Ohio	7	979	.493	25.59	51.9	-----	577	-----	71	-----	96	36	-----	46	86	24	24	-----	6	13
Wisconsin and Minnesota	2	137	.426	22.24	52.2	1	63	-----	6	-----	51	7	-----	-----	2	-----	-----	-----	6	1
Total	34	4,301	.512	26.78	52.3	1	2,057	6	167	422	911	82	27	153	273	27	37	4	90	44
FEMALES																				
Cutter girls:																				
New England	7	132	.362	18.39	50.8	-----	60	-----	-----	67	5	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	3	29	.343	18.14	52.9	-----	-----	-----	8	-----	21	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	9	82	.319	17.23	54.0	-----	-----	-----	-----	2	68	12	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	5	128	.309	15.30	49.5	-----	65	-----	45	-----	18	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	2	14	.280	15.20	54.3	-----	-----	-----	-----	-----	10	4	-----	-----	-----	-----	-----	-----	-----	-----
Total	26	385	.331	16.98	51.3	-----	125	-----	53	69	122	16	-----	-----	-----	-----	-----	-----	-----	-----
Plater girls:																				
Michigan and Ohio	2	35	.336	16.80	50.0	-----	-----	-----	35	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Sorters:																				
New England	6	303	.334	17.57	52.6	-----	38	-----	-----	208	57	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	2	3	.353	19.06	54.0	-----	-----	-----	-----	-----	3	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	5	88	.267	14.39	53.9	-----	-----	-----	-----	4	83	1	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	4	169	.279	13.98	50.1	-----	-----	-----	167	-----	-----	2	-----	-----	-----	-----	-----	-----	-----	-----
Total	17	563	.307	15.96	52.0	-----	38	-----	167	212	143	3	-----	-----	-----	-----	-----	-----	-----	-----
Counters:																				
New England	5	42	.384	19.74	51.4	-----	16	-----	-----	15	11	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	4	43	.360	18.58	51.6	-----	-----	-----	26	-----	17	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	6	64	.265	14.31	54.0	-----	-----	-----	-----	-----	64	-----	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	6	131	.316	15.83	50.1	-----	-----	-----	127	-----	4	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	2	33	.310	16.80	54.2	-----	-----	-----	-----	-----	25	8	-----	-----	-----	-----	-----	-----	-----	-----
Total	23	313	.320	16.54	51.7	-----	16	-----	153	15	121	8	-----	-----	-----	-----	-----	-----	-----	-----
Other employees:																				
New England	3	22	.369	19.63	53.2	-----	3	-----	-----	-----	19	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	2	22	.318	14.56	45.8	20	-----	-----	-----	-----	2	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	6	62	.249	13.45	54.0	-----	-----	-----	-----	-----	62	-----	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	5	176	.336	16.60	49.4	-----	94	-----	60	-----	22	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	2	12	.335	18.09	54.0	-----	-----	-----	-----	-----	12	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	18	294	.319	16.14	50.6	20	97	-----	60	-----	117	-----	-----	-----	-----	-----	-----	-----	-----	-----

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Continued

NEWSPRINT MILLS

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—													
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES																			
Beater engineers:																			
New England	10	36	$0.783	$37.58	48.0	-----	36	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	13	46	.759	37.19	49.0	-----	44	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2	-----
Michigan and Ohio	2	5	.838	40.22	48.0	-----	5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	8	24	.652	31.30	48.0	-----	24	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pacific coast	5	27	.595	28.56	48.0	-----	27	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	38	138	.717	34.63	48.3	-----	136	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2	-----
Beater men:																			
New England	8	69	.491	23.91	48.0	-----	69	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	11	158	.455	21.84	48.0	-----	158	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	2	14	.431	20.69	48.0	-----	14	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	8	78	.451	21.65	48.0	-----	78	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pacific coast	4	126	.446	21.41	48.0	-----	126	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	33	445	.457	21.98	48.0	-----	445	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Size makers:																			
New England	3	3	.617	32.08	52.0	-----	2	-----	-----	-----	-----	-----	-----	-----	1	-----	-----	-----	-----
New York	3	4	.434	20.83	48.0	-----	4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	2	2	.477	25.76	54.0	-----	-----	-----	-----	-----	2	-----	-----	-----	-----	-----	-----	-----	-----
Pacific coast	5	5	.459	24.79	54.0	-----	-----	-----	-----	-----	5	-----	-----	-----	-----	-----	-----	-----	-----
Total	13	14	.488	25.33	51.9	-----	6	-----	-----	-----	7	-----	-----	-----	1	-----	-----	-----	-----
Machine tenders:																			
New England	10	125	.971	46.61	48.0	-----	125	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	14	142	.955	45.84	48.0	-----	142	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Michigan and Ohio	2	9	1.199	57.55	48.0	-----	9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	9	58	.944	45.31	48.0	-----	58	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pacific coast	5	84	.853	40.94	48.0	-----	84	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	40	418	.943	45.26	48.0	-----	418	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Back tenders:																			
New England	10	127	.773	37.10	48.0		127												
New York	14	137	.767	36.82	48.0		137												
Michigan and Ohio	2	10	1.009	48.43	48.0		10												
Wisconsin and Minnesota	9	60	.772	37.06	48.0		60												
Pacific coast	5	85	.681	32.69	48.0		85												
Total	40	419	.758	36.38	48.0		419												
Third hands:																			
New England	10	125	.655	31.44	48.0		125												
New York	14	134	.652	31.30	48.0		134												
Michigan and Ohio	2	9	.776	37.25	48.0		9												
Wisconsin and Minnesota	9	57	.630	30.24	48.0		57												
Pacific coast	5	82	.593	28.46	48.0		82												
Total	40	407	.641	30.77	48.0		407												
Fourth hands:																			
New England	8	103	.532	25.54	48.0		103												
New York	13	117	.512	24.58	48.0		117												
Michigan and Ohio	2	9	.650	31.20	48.0		9												
Wisconsin and Minnesota	9	56	.500	24.00	48.0		56												
Pacific coast	5	50	.466	22.37	48.0		50												
Total	37	335	.513	24.62	48.0		335												
Cutter men:																			
New England	4	9	.467	22.42	48.0		9												
New York	6	23	.471	22.84	48.5		21				2								
Wisconsin and Minnesota	4	8	.481	25.97	54.0						8								
Pacific coast	4	13	.459	24.79	54.0						13								
Total	18	53	.469	23.73	50.6		30				23								
Trimmers:																			
New York	2	2	.39	21.07	48.0		2												
Pacific coast	2	5	.461	24.89	54.0						5								
Total	4	7	.455	23.80	52.3		2				5								
Packers:																			
New England	10	126	.494	23.71	48.0		125				1								
New York	14	122	.462	22.50	48.7		113				7				1				1
Michigan and Ohio	2	7	.433	20.78	48.0		7												
Wisconsin and Minnesota	9	51	.448	22.58	50.4		31				20								
Pacific coast	5	55	.444	23.98	54.0						55								
Total	40	361	.468	23.17	49.5		276				83				1				1

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Continued

NEWSPRINT MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—														
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES—concluded																				
Laborers:																				
New England	10	346	$0.460	$22.08	48.0	-----	345	-----	-----	-----	1	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	14	247	.443	21.62	48.8	-----	218	-----	-----	-----	27	-----	-----	-----	2	-----	-----	-----	-----	-----
Michigan and Ohio	2	17	.448	21.50	48.0	-----	17	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	9	92	.413	21.02	50.9	-----	45	-----	-----	-----	47	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pacific coast	5	309	.412	22.25	54.0	-----	-----	-----	-----	-----	309	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	40	1,011	.437	21.98	50.3	-----	625	-----	-----	-----	384	-----	-----	-----	2	-----	-----	-----	-----	-----
Other employees:																				
New England	10	912	.644	31.04	48.2	1	878	-----	-----	-----	20	-----	11	-----	-----	-----	-----	-----	-----	2
New York	14	959	.627	30.85	49.2	-----	880	-----	-----	-----	17	1	14	-----	24	1	5	1	6	10
Michigan and Ohio	2	71	.632	31.09	49.2	-----	67	-----	-----	-----	-----	-----	3	-----	-----	-----	-----	-----	-----	1
Wisconsin and Minnesota	9	179	.488	25.47	52.2	-----	113	-----	-----	-----	56	-----	-----	-----	-----	1	-----	1	-----	8
Pacific coast	5	685	.530	28.25	53.3	-----	211	-----	-----	-----	448	-----	-----	-----	-----	1	-----	-----	2	23
Total	40	2,806	.600	30.06	50.1	1	2,149	-----	-----	-----	541	1	28	-----	24	3	5	2	8	44
FEMALES																				
Cutter girls:																				
New England	5	19	.355	17.04	48.0	-----	19	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	6	24	.347	17.00	49.0	-----	20	-----	-----	-----	4	-----	-----	-----	-----	-----	-----	-----	-----	-----
Wisconsin and Minnesota	4	11	.288	15.55	54.0	-----	-----	-----	-----	-----	11	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pacific coast	2	11	.346	16.61	48.0	-----	11	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	17	65	.339	16.75	49.4		50	-----	-----	-----	15	-----	-----	-----	-----	-----	-----	-----	-----	-----
Other employees:																				
Wisconsin and Minnesota	3	17	.290	15.66	54.0	-----	-----	-----	-----	-----	17	-----	-----	-----	-----	-----	-----	-----	-----	-----

95102°—25†—4

MALES																			
Beater engineers:																			
New England	5	20	$0.809	$40.77	50.4		18										2		
New York	4	14	.620	31.87	51.4		12										2		
Pennsylvania, Maryland, and Virginia	4	9	.568	35.84	63.1		3												
Michigan and Ohio	5	20	.749	39.55	52.8		16									2	4		
Wisconsin and Minnesota	6	21	.691	33.17	48.0		21										4		
Total	24	84	.708	39.01	55.1		70									2	12		
Beater men:																			
New England	5	153	.484	23.23	48.0		153												
New York	4	38	.446	21.99	49.3		36										2		
Pennsylvania, Maryland, and Virginia	4	51	.416	27.46	66.0		12								5		34		
Michigan and Ohio	5	71	.513	26.73	52.1		59										12		
Wisconsin and Minnesota	6	97	.456	21.89	48.0		97												
Total	24	410	.470	24.02	51.1		357								5		48		
Size makers:																			
New England	5	7	.538	28.57	53.1		4				1			1		1			
Pennsylvania, Maryland, and Virginia	3	5	.490	27.05	55.2		3							1			1		
Wisconsin and Minnesota	5	6	.482	26.51	55.0						5			1					
Total	13	18	.506	27.48	54.3		7				6			3		1	1		
Machine tenders:																			
New England	5	64	.930	44.64	48.0		64												
New York	4	19	.820	41.41	50.5		17												
Pennsylvania, Maryland, and Virginia	4	34	.733	43.10	58.8		18										2		
Michigan and Ohio	5	43	.737	41.12	55.8		29									4	12		
Wisconsin and Minnesota	6	74	.851	40.85	48.0		74										14		
Total	24	234	.832	42.60	51.2		202									4	28		
Back tenders:																			
New England	5	65	.718	34.46	48.0		65												
New York	4	19	.642	32.42	50.5		17										2		
Pennsylvania, Maryland, and Virginia	4	34	.580	34.10	58.8		18									4	12		
Michigan and Ohio	5	47	.599	33.00	55.1		33										14		
Wisconsin and Minnesota	6	70	.617	29.62	48.0		70												
Total	24	235	.638	32.67	51.2		203									4	28		

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Continued

WRAPPING-PAPER MILLS—Continued

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—												
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES—concluded.																				
Third hands:																				
New England	5	63	$0.611	$29.33	48.0	-----	63	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	4	20	.536	27.01	50.4	-----	18	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2	-----
Pennsylvania, Maryland, and Virginia	4	33	.485	28.32	58.4	-----	18	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	4	11	-----
Michigan and Ohio	5	35	.532	29.21	54.9	-----	25	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	10	-----
Wisconsin and Minnesota	6	71	.516	24.77	48.0	-----	71	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	24	222	.543	27.58	50.8	-----	195	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	4	23	-----
Fourth hands:																				
New England	5	60	.506	24.29	48.0	-----	60	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	4	20	.456	22.98	50.4	-----	18	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2	-----
Pennsylvania, Maryland, and Virginia	3	14	.415	26.31	63.4	-----	5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	9	-----
Michigan and Ohio	3	21	.521	28.60	54.9	-----	15	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	6	-----
Wisconsin and Minnesota	6	80	.444	21.31	48.0	-----	80	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	21	195	.468	23.45	50.1	-----	178	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	17	-----
Calender men:																				
Wisconsin and Minnesota	2	5	.614	30.95	50.4	-----	3	-----	-----	-----	2	-----	-----	-----	-----	-----	-----	-----	-----	-----
Cutter men:																				
New England	4	17	.513	25.70	50.1	-----	11	-----	-----	-----	6	-----	-----	-----	-----	-----	-----	-----	-----	-----
New York	3	6	.535	30.50	57.0	-----	-----	-----	-----	-----	3	-----	-----	-----	3	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	3	10	.482	26.61	55.2	-----	-----	-----	-----	-----	8	-----	-----	-----	2	-----	-----	-----	-----	-----
Michigan and Ohio	3	9	.495	27.37	55.3	-----	-----	-----	-----	-----	7	-----	-----	-----	2	-----	-----	-----	-----	-----
Wisconsin and Minnesota	5	12	.447	23.24	52.0	-----	4	-----	-----	-----	8	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	18	54	.492	26.13	53.1	-----	15	-----	-----	-----	32	-----	-----	-----	7	-----	-----	-----	-----	-----

Trimmers:																			
New York	2	3	.519	28.03	54.0					3			1						
Pennsylvania, Maryland, and Virginia	2	2	.462	26.24	56.8					1									
Michigan and Ohio	2	4	.517	28.69	55.5					3				1					
Wisconsin and Minnesota	3	4	.477	25.76	54.0					4									
Total	9	13	.497	27.29	54.9					11			1	1					
Packers:																			
New England	4	82	.465	23.34	50.2		52			30									
New York	4	35	.434	24.56	56.6					20				15					
Pennsylvania, Maryland, and Virginia	4	35	.476	26.99	56.7					18			12	5					
Michigan and Ohio	5	26	.531	29.42	55.4				3	15				8					
Wisconsin and Minnesota	6	70	.439	23.84	54.3		17			49									4
Total	23	248	.462	24.81	53.7		69		3	132			12	28					4
Laborers:																			
New England	5	217	.481	23.38	48.6		194			23									
New York	4	68	.386	20.50	53.1		24			34				8				2	
Pennsylvania, Maryland, and Virginia	4	90	.395	22.32	56.5		20			39			2	16				13	
Michigan and Ohio	5	79	.424	24.68	58.2					30				46				3	
Wisconsin and Minnesota	6	180	.413	21.68	52.5		56			118				5					1
Total	24	634	.432	22.68	52.5		294			244			2	75				18	1
Other employees:																			
New England	5	470	.623	30.22	48.5		436			32								2	
New York	4	192	.514	28.01	54.5		66			94				11		7		10	4
Pennsylvania, Maryland, and Virginia	4	156	.469	28.84	61.5		16			37			34	8	3		17	33	8
Michigan and Ohio	5	238	.512	29.18	57.0		68		3	75				51				38	3
Wisconsin and Minnesota	6	424	.460	24.29	52.8		202			177		6	1	2	1		16	8	11
Total	24	1,480	.528	28.14	53.3		788		3	415		6	35	72	4	7	33	91	26
FEMALES																			
Cutter girls:																			
New England	4	37	.318	16.25	51.1		18			19									
New York	3	9	.219	11.39	52.0		2			7									
Pennsylvania, Maryland, and Virginia	3	16	.285	15.39	54.0					16									
Michigan and Ohio	3	18	.314	16.45	52.4				8	10									
Wisconsin and Minnesota	6	39	.316	16.97	53.7		2			37									
Total	19	119	.305	16.04	52.6		22		8	89									
Counters:																			
New York	3	13	.284	15.34	54.0					13									
Pennsylvania, Maryland, and Virginia	3	23	.312	16.85	54.0					23									
Michigan and Ohio	2	15	.277	14.15	51.1				11	4									
Wisconsin and Minnesota	3	14	.316	16.53	52.3		4			10									
Total	11	65	.299	15.85	53.0		4		11	50									

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Continued

WRAPPING-PAPER MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—													
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
FEMALES—concluded.																				
Other employees:																				
Michigan and Ohio	3	16	$0.276	$14.71	53.3	----	----	----	3	----	13	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	3	7	.346	17.51	50.6	----	4	----	----	----	3	----	----	----	----	----	----	----	----	----
Total	6	23	.297	15.56	52.4	----	4	----	3	----	16	----	----	----	----	----	----	----	----	----

WRITING-PAPER MILLS

MALES																				
Beater engineers:																				
New England	8	42	$0.873	$41.90	48.0	----	42	----	----	----	----	----	----	----	----	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	2	13	1.193	79.33	66.5	----	3	----	----	----	----	----	----	----	----	----	----	----	10	----
Michigan and Ohio	7	22	.733	35.18	48.0	----	22	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	3	18	.657	31.73	48.3	----	17	----	----	----	1	----	----	----	----	----	----	----	----	----
Total	20	95	.843	42.64	50.6	----	84	----	----	----	1	----	----	----	----	----	----	----	10	----
Beater men:																				
New England	8	136	.513	24.62	48.0	----	136	----	----	----	----	----	----	----	----	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	2	103	.503	31.39	62.4	----	41	----	----	----	----	----	----	----	----	----	----	----	62	----
Michigan and Ohio	7	116	.498	23.90	48.0	----	116	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	3	81	.450	21.60	48.0	----	81	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	20	436	.495	25.44	51.4	----	374	----	----	----	----	----	----	----	----	----	----	----	62	----
Size makers:																				
New England	8	15	.526	26.35	50.1	----	1	----	13	----	1	----	----	----	----	----	2	----	----	----
Pennsylvania, Maryland, and Virginia	2	3	.929	57.60	62.0	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----
Michigan and Ohio	6	7	.483	26.28	54.4	----	1	----	----	1	3	----	----	----	2	----	----	----	----	----

Wisconsin and Minnesota	3	9	.413	23.42	56.7					5				4					
Total	19	34	.529	28.46	53.8		2		13	1	10				6		2		
Machine tenders:																			
New England	8	67	.911	43.73	48.0		67												
Pennsylvania, Maryland, and Virginia	2	30	1.091	61.10	56.0		20											10	
Michigan and Ohio	7	40	.828	39.74	48.0		40												
Wisconsin and Minnesota	3	31	.730	35.04	48.0		31												
Total	20	168	.890	43.97	49.4		158											10	
Back tenders:																			
New England	8	68	.629	30.19	48.0		68												
Pennsylvania, Maryland, and Virginia	2	32	.796	44.81	56.3		21											11	
Michigan and Ohio	7	40	.632	30.34	48.0		40												
Wisconsin and Minnesota	3	33	.489	23.47	48.0		33												
Total	20	173	.634	31.38	49.5		162											11	
Third hands:																			
New England	8	50	.521	25.01	48.0		50												
Pennsylvania, Maryland, and Virginia	2	30	.552	30.91	56.0		20											10	
Michigan and Ohio	7	40	.534	25.63	48.0		40												
Wisconsin and Minnesota	3	32	.423	20.30	48.0		32												
Total	20	152	.510	25.30	49.6		142											10	
Fourth hands:																			
New England	3	13	.494	23.71	48.0		13												
Michigan and Ohio	3	18	.455	21.84	48.0		18												
Total	6	31	.471	22.61	48.0		31												
Loftmen:																			
New England	5	46	.606	29.88	49.3		15		31										
Calender men:																			
New England	5	30	.600	28.98	48.3		26		4										
Pennsylvania, Maryland, and Virginia	2	21	.581	28.88	49.7		18								3				
Michigan and Ohio	6	23	.570	30.04	52.7		15		2	1	1							4	
Wisconsin and Minnesota	3	16	.496	26.78	54.0		8								8				
Total	16	90	.569	28.91	50.8		67		6	1	1				11			4	
Cutter men:																			
New England	6	36	.487	24.01	49.3		15		20		1								
Pennsylvania, Maryland, and Virginia	2	34	.557	30.08	54.0						34								
Michigan and Ohio	6	34	.497	25.79	51.9				4	18	9	3							
Wisconsin and Minnesota	3	17	.422	22.70	53.8					2	15								
Total	17	121	.500	26.00	52.0		15		24	20	59	3							

TABLE A.—AVERAGE HOURS AND EARNINGS AND CLASSIFIED FULL-TIME HOURS PER WEEK, 1923, BY OCCUPATION, SEX, AND REGION—Concluded

WRITING-PAPER MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Average full-time earnings per week	Average full-time hours per week	Number of employees whose full-time hours per week were—													
						Under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	Over 54 and under 56	56	Over 56 and under 60	60	Over 60 and under 66	66	Over 66 and under 72	72	Over 72
MALES—concluded.																			
Plater men:																			
New England	4	18	$0.744	$37.20	50.0				18										
Michigan and Ohio	4	10	.635	33.40	52.6				1	3	6								
Total	8	28	.705	35.88	50.9				19	3	6								
Counters:																			
New England	3	11	.557	27.85	50.0				11										
Trimmers:																			
New England	7	27	.653	32.45	49.7		6		20		1								
Pennsylvania, Maryland, and Virginia	2	13	.932	51.17	54.9						1	12							
Michigan and Ohio	7	26	.561	29.34	52.3				4	10	9	3							
Wisconsin and Minnesota	3	18	.445	23.85	53.6					5	13								
Total	19	84	.623	32.46	52.1		6		24	15	24	15							
Packers:																			
New England	8	58	.499	25.15	50.4		10		37		11								
Pennsylvania, Maryland, and Virginia	2	59	.622	33.59	54.0						59								
Michigan and Ohio	7	64	.507	26.57	52.4				5	30	16	13							
Wisconsin and Minnesota	3	21	.410	21.94	53.5					7	14								
Total	20	202	.528	27.67	52.4		10		42	37	100	13							
Laborers:																			
New England	8	130	.430	21.80	50.7		22		75		33								
Pennsylvania, Maryland, and Virginia	2	85	.474	26.02	54.9		34				15	21			5			10	

Michigan and Ohio	7	105	.426	21.98	51.6		9		18	44	17	17								
Wisconsin and Minnesota	3	76	.400	21.28	53.2		16			11	45				2				2	
Total	20	396	.433	22.65	52.3		81		93	55	110	38			7				12	
Other employees:																				
New England	8	456	.558	27.68	49.6		203		193		60									
Pennsylvania, Maryland, and Virginia	2	204	.583	32.88	56.4		58		6	2	53				58			1	23	3
Michigan and Ohio	7	277	.518	27.09	52.3		91		35	50	54	24			9				7	7
Wisconsin and Minnesota	3	212	.445	22.47	50.5	2	124			29	41				13			1	1	1
Total	20	1,149	.532	27.45	51.6	2	476		234	81	208	24			80			2	31	11
FEMALES																				
Cutter girls:																				
New England	5	35	.395	18.96	48.0		35													
Pennsylvania, Maryland, and Virginia	2	53	.304	16.05	52.8	9					44									
Michigan and Ohio	4	37	.313	15.65	50.0				37											
Wisconsin and Minnesota	3	39	.288	15.41	53.5					12	27									
Total	14	164	.322	16.52	51.3	9	35		37	12	71									
Plater girls:																				
New England	4	117	.422	20.26	48.0		117													
Michigan and Ohio	4	101	.405	21.26	52.5				38		63									
Total	8	218	.414	20.74	50.1		117		38		63									
Sorters:																				
New England	7	74	.414	20.12	48.6		66				8									
Michigan and Ohio	4	32	.510	26.67	52.3				14		18									
Wisconsin and Minnesota	3	54	.282	15.17	53.8					9	45									
Total	14	160	.389	19.88	51.1		66		14	9	71									
Counters:																				
New England	6	21	.382	19.52	51.1		10				11									
Pennsylvania, Maryland, and Virginia	2	103	.386	20.84	54.0						103									
Michigan and Ohio	6	66	.323	16.15	50.0				66											
Wisconsin and Minnesota	2	23	.310	16.74	54.0						23									
Total	16	213	.358	18.80	52.5		10		66		137									
Other employees:																				
New England	7	66	.433	20.78	48.0		66													
Michigan and Ohio	4	50	.455	24.43	53.7				4		46									
Wisconsin and Minnesota	3	36	.298	15.88	53.3					16	20									
Total	14	152	.408	20.85	51.1		66		4	16	66									

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION

PULP MILLS

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES									
Barker men									
One week:									
New England	13	100	6.0	5.9	52.4	54.1	103	$23.84	$24.61
New York	8	35	6.0	6.0	52.3	56.7	108	22.86	24.74
Total	21	135	6.0	5.9	52.4	54.8	105	23.58	24.64
Two weeks or one-half month:									
Michigan and Ohio	3	36	13.4	13.7	122.3	132.6	108	56.62	61.38
Wisconsin and Minnesota	6	25	12.7	13.0	119.8	123.8	103	50.92	52.62
Pacific coast	5	94	14.0	11.9	118.4	100.0	84	52.57	44.34
Total	14	155	13.3	12.0	119.5	111.4	93	53.30	49.63
Splitter men									
One week:									
New England	11	33	5.4	5.0	50.7	48.2	95	23.98	22.79
New York	9	11	6.0	6.1	54.4	59.3	109	23.94	26.10
Total	20	44	5.5	5.3	51.6	51.0	99	23.89	23.62
Two weeks or one-half month:									
Michigan and Ohio	3	6	13.0	12.8	117.0	124.3	106	59.09	62.76
Wisconsin and Minnesota	9	32	13.9	13.2	123.6	120.6	98	52.41	51.17
Pacific coast	4	37	14.1	12.4	122.2	105.8	87	54.99	47.65
Total	16	75	13.9	12.8	122.4	113.6	93	54.22	50.36
Chipper men									
One week:									
New England	14	49	5.9	5.8	52.5	53.4	102	24.78	25.20
New York	11	26	6.0	5.9	51.2	59.9	117	23.60	27.66
Pennsylvania, Maryland, and Virginia	3	8	6.0	6.0	64.9	66.1	102	30.24	30.84
Louisiana	3	4	6.0	6.0	66.0	65.3	99	13.66	13.54
Total	31	87	5.9	5.9	53.9	57.1	106	24.47	25.92
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	23	13.4	13.8	127.5	129.9	102	60.31	61.48
Michigan and Ohio	3	7	12.6	11.1	113.1	121.7	108	55.76	60.00
Wisconsin and Minnesota	11	35	13.8	13.9	126.2	132.0	105	56.03	58.61
Pacific coast	5	48	14.0	11.8	118.4	101.8	86	53.04	45.61
Total	23	113	13.7	12.8	122.3	118.1	97	55.65	53.76
Grinder men									
One week:									
New England	14	278	6.2	6.0	50.6	53.2	105	26.62	28.00
New York	17	360	6.0	5.8	50.6	53.7	106	25.05	26.58
Total	31	638	6.1	5.9	50.6	53.5	106	25.70	27.20
Two weeks or one-half month:									
Michigan and Ohio	3	51	14.9	10.6	118.9	91.7	77	56.12	43.32
Wisconsin and Minnesota	11	150	15.4	14.1	125.5	121.6	97	58.86	57.09
Pacific coast	5	215	15.3	11.6	122.2	97.6	80	59.51	47.60
Total	19	416	15.3	12.4	123.0	105.6	86	58.79	50.50

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

PULP MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period—		Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
			By establishments	By employees					
MALES—continued									
Acid makers									
One week:									
New England	11	32	6.3	6.2	50.4	54.9	109	$33.82	$36.80
New York	12	29	6.0	6.1	57.8	59.5	103	34.39	35.39
Total	23	61	6.1	6.1	53.9	57.1	106	34.12	36.13
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	5	12	13.3	14.1	136.0	149.8	110	80.10	88.22
Michigan and Ohio	5	13	14.5	14.4	131.7	133.6	101	83.10	84.31
Wisconsin and Minnesota	9	27	13.9	14.5	112.9	123.4	109	66.95	73.14
Pacific coast	5	15	14.4	14.8	115.2	120.2	104	68.77	71.68
Total	24	67	13.9	14.4	121.2	129.4	107	72.72	77.68
Cooks, sulphite									
One week:									
New England	11	34	6.3	5.9	50.8	52.3	103	37.74	38.82
New York	12	32	6.0	6.3	55.6	56.5	102	37.92	38.52
Total	23	66	6.2	6.1	53.1	54.3	102	37.81	38.68
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	5	16	13.0	13.7	144.0	154.5	107	109.01	117.03
Michigan and Ohio	5	13	14.5	14.5	131.7	132.9	101	86.26	87.09
Wisconsin and Minnesota	9	28	13.9	13.6	113.7	123.5	109	79.25	86.06
Pacific coast	5	16	14.4	14.4	115.0	120.3	105	74.29	77.72
Total	24	73	13.8	13.9	123.8	131.2	106	86.04	91.20
Cooks, sulphate									
One week:									
New England	3	9	6.3	6.1	50.7	48.4	96	32.45	31.01
Pennsylvania, Maryland, and Virginia	2	4	6.0	6.0	72.0	76.0	106	31.90	33.64
Louisiana	3	7	6.4	6.0	61.7	62.0	101	29.18	29.33
Total	8	20	6.3	6.0	58.8	58.7	100	30.99	30.95
Two weeks or one-half month:									
Wisconsin and Minnesota	4	12	14.0	14.3	112.0	120.4	108	70.22	75.50
Blow pit men									
One week:									
New England	11	49	6.1	5.9	49.2	52.2	106	24.99	26.53
New York	12	38	6.0	5.9	55.3	56.7	102	25.00	25.64
Total	23	87	6.0	5.9	51.9	54.2	104	25.00	26.14
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	5	18	13.3	13.3	136.6	146.9	108	64.07	68.84
Michigan and Ohio	4	14	12.9	13.1	111.4	117.2	105	54.59	57.48
Wisconsin and Minnesota	9	35	13.6	13.3	111.5	112.8	101	50.73	51.37
Pacific coast	5	21	14.3	14.5	112.0	121.1	108	51.74	55.96
Total	23	88	13.5	13.5	116.8	122.5	105	54.31	57.01

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

PULP MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—continued									
Diffuser men									
One week:									
New England	3	9	6.3	6.0	50.7	48.6	96	$30.37	$29.14
Pennsylvania, Maryland, and Virginia	2	6	6.0	6.0	72.0	79.8	111	29.74	32.98
Louisiana	3	7	6.0	5.1	61.7	60.3	98	24.99	24.41
Total	8	22	6.1	5.7	60.0	60.8	101	28.26	28.68
Two weeks or one-half month:									
Wisconsin and Minnesota	5	15	13.6	13.3	108.8	126.3	116	57.88	67.14
Evaporator men									
One week:									
New England	3	9	6.3	6.7	50.7	55.9	110	27.58	30.42
Pennsylvania, Maryland, and Virginia	2	4	6.0	6.0	72.0	77.0	107	31.10	33.27
Louisiana	3	7	6.0	5.9	61.7	66.4	108	25.11	27.05
Total	8	20	6.2	6.3	58.8	63.8	108	27.46	29.81
Two weeks or one-half month:									
Wisconsin and Minnesota	4	12	13.5	14.3	108.0	119.7	111	57.46	63.74
Recovery men									
One week:									
New England	3	38	6.3	5.9	50.5	48.7	96	27.37	26.41
Pennsylvania, Maryland, and Virginia	2	20	6.0	6.0	72.0	70.2	97	23.33	22.74
Louisiana	3	33	6.0	5.9	69.8	72.4	104	19.13	19.86
Total	8	91	6.1	5.8	62.2	62.0	100	23.26	23.23
Two weeks or one-half month:									
Wisconsin and Minnesota	4	42	13.7	13.5	109.7	120.5	110	57.04	62.67
Caustic men									
One week:									
New England	3	9	6.3	6.3	50.7	54.7	108	30.98	33.42
Pennsylvania, Maryland, and Virginia	2	6	6.0	6.0	72.0	77.1	107	27.43	29.37
Louisiana	3	9	6.0	6.0	64.0	70.7	110	26.43	29.19
Total	8	24	6.1	6.1	61.0	66.3	109	28.37	30.82
Two weeks or one-half month:									
Wisconsin and Minnesota	4	10	13.8	14.7	110.4	129.6	117	60.28	70.76
Screen men									
One week:									
New England	17	77	6.1	6.0	50.2	51.6	103	25.50	26.22
New York	12	58	6.0	6.1	52.4	58.6	112	25.34	28.29
Pennsylvania, Maryland, and Virginia	3	15	6.0	6.1	72.0	71.2	99	31.97	31.63
Louisiana	3	17	6.0	5.3	67.8	63.2	93	14.98	13.99
Total	35	167	6.1	6.0	54.7	57.0	104	25.16	26.18
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	3	19	13.3	13.9	121.3	122.2	101	52.52	52.97
Michigan and Ohio	5	22	13.5	12.2	113.1	108.0	96	59.15	56.48
Wisconsin and Minnesota	8	53	14.5	13.3	117.1	110.3	94	53.75	50.59
Pacific coast	4	31	14.5	14.0	115.1	119.6	104	55.02	57.12
Total	20	125	14.0	13.2	116.5	114.0	98	54.76	53.61

TABLE B.—AVERAGE NUMBER OF DAYS WORKED, BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

PULP MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—continued									
Head pressmen									
One week:									
New England	14	45	6.2	6.2	49.2	56.0	114	$30.16	$34.34
New York	10	33	6.1	6.2	56.9	62.1	109	33.17	36.22
Pennsylvania, Maryland, and Virginia	2	4	6.0	6.3	72.0	74.5	103	36.86	38.13
Louisiana	2	4	6.0	5.8	72.0	73.5	102	32.98	33.65
Total	28	86	6.1	6.2	54.3	60.0	111	31.87	35.20
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	3	7	13.4	14.3	137.1	153.5	112	74.45	83.34
Michigan and Ohio	5	15	14.0	13.4	112.0	119.9	107	62.94	67.42
Wisconsin and Minnesota	13	52	14.6	14.3	118.3	125.9	106	64.71	68.90
Pacific coast	5	31	15.0	15.1	120.3	129.3	108	61.83	66.45
Total	26	105	14.5	14.4	119.2	127.9	107	64.25	68.93
Pressmen									
One week:									
New England	17	214	6.1	6.1	45.0	52.7	117	22.05	25.82
New York	18	235	6.0	5.5	51.7	52.7	102	23.78	24.26
Pennsylvania, Maryland, and Virginia	2	19	6.0	5.7	72.0	69.0	96	48.89	46.83
Louisiana	2	11	6.0	4.9	72.0	56.4	78	18.00	14.10
Total	39	479	6.0	5.8	50.0	53.4	107	24.00	25.62
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	33	13.6	13.2	129.3	137.6	106	55.60	59.18
Michigan and Ohio	8	78	13.6	11.5	113.9	99.5	87	54.90	48.00
Wisconsin and Minnesota	14	168	14.0	13.1	116.0	113.2	98	52.08	50.83
Pacific coast	5	234	14.7	10.8	117.3	90.4	77	53.25	41.03
Total	31	513	14.2	11.8	117.1	102.3	87	53.16	46.47
Rag washer men									
One week:									
New England	8	28	6.0	5.8	48.1	53.4	111	30.69	34.11
Michigan and Ohio	3	6	6.0	5.7	58.0	56.8	98	32.77	32.06
Total	11	34	6.0	5.7	49.8	54.0	108	31.13	33.75
Two weeks or one-half month:									
Wisconsin and Minnesota	3	28	14.0	14.5	112.0	117.3	105	52.30	54.73
Rag workers, other									
One week:									
New England	8	69	6.0	5.6	49.9	49.2	99	23.85	23.51
Michigan and Ohio	4	16	6.0	5.6	52.4	49.4	94	24.21	22.79
Total	12	85	6.0	5.6	50.4	49.2	98	23.94	23.38
Two weeks or one-half month:									
Wisconsin and Minnesota	3	40	14.0	13.2	125.0	122.5	98	49.63	48.62

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

PULP MILLS—Concluded

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—concluded									
Laborers									
One week:									
New England	22	1,199	6.0	5.6	51.4	50.2	98	$22.41	$21.89
New York	20	1,151	6.0	5.6	52.0	50.6	97	22.20	21.63
Pennsylvania, Maryland, and Virginia	3	142	6.0	5.5	65.1	59.5	91	24.74	22.62
Louisiana	3	42	6.0	5.1	70.6	61.9	88	14.26	12.48
Total	48	2,534	6.0	5.6	52.7	51.1	97	22.34	21.66
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	189	13.6	11.5	124.5	111.8	90	48.31	43.33
Michigan and Ohio	8	378	12.9	10.0	114.4	91.6	80	53.31	42.67
Wisconsin and Minnesota	16	1,513	13.8	10.9	123.7	97.0	78	50.35	39.46
Pacific coast	5	579	14.0	9.2	123.9	78.6	63	52.91	33.57
Total	33	2,659	13.7	10.4	122.4	93.2	76	51.04	38.91
Other employees									
One week:									
New England	22	791	6.0	5.9	50.7	51.7	102	27.68	28.23
New York	20	625	6.0	6.2	54.0	57.2	106	28.84	30.55
Pennsylvania, Maryland, and Virginia	3	117	6.0	5.9	65.2	63.7	98	36.45	35.59
Louisiana	3	68	6.0	5.8	65.2	67.2	103	16.89	17.39
Total	48	1,601	6.0	6.0	53.7	55.4	103	28.30	29.21
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	288	13.9	13.3	122.7	122.9	100	60.49	60.61
Michigan and Ohio	8	228	13.3	12.6	114.2	117.4	103	62.24	63.99
Wisconsin and Minnesota	16	775	14.0	13.7	120.8	123.9	103	59.55	61.10
Pacific coast	5	415	14.2	12.5	121.2	108.7	90	60.60	54.32
Total	33	1,706	13.9	13.1	120.3	119.2	99	60.27	59.76
FEMALES									
Rag sorters									
One week:									
New England	8	257	6.0	5.2	48.0	42.0	87	16.90	14.77
Michigan and Ohio	4	43	6.0	5.7	48.4	46.4	96	17.38	16.67
Total	12	300	6.0	5.2	48.1	42.6	89	16.98	15.04
Two weeks or one-half month:									
Wisconsin and Minnesota	3	126	14.0	12.2	123.9	106.5	86	34.07	29.25
Rag workers, other									
One week:									
New England	5	35	6.0	5.3	48.0	42.4	88	19.25	16.9
Two weeks or one-half month:									
Wisconsin and Minnesota	2	15	14.0	13.9	126.0	124.4	99	38.30	37.78

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

BOOK-PAPER MILLS

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES									
Beater engineers									
One week:									
New England	8	96	6.0	6.1	48.0	49.0	102	$34.51	$35.22
New York	6	35	6.0	5.9	48.0	54.5	114	36.05	40.97
Pennsylvania, Maryland, and Virginia	2	4	6.0	6.0	60.0	72.0	120	33.90	40.68
Michigan and Ohio	4	25	5.9	5.9	50.3	51.1	102	33.10	33.65
Total	20	160	6.0	6.0	48.7	51.1	105	34.67	36.37
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	9	54	13.6	13.2	111.3	114.7	103	78.91	81.37
Michigan and Ohio	2	21	12.0	11.8	96.0	97.8	102	63.74	64.99
Wisconsin and Minnesota	2	12	14.0	13.4	113.2	110.9	98	65.77	64.46
Total	13	87	13.3	12.9	107.8	110.1	102	73.52	75.08
Beater men									
One week:									
New England	8	298	6.0	5.9	48.0	48.6	101	24.24	24.50
New York	6	136	6.0	5.8	53.3	56.2	105	25.16	26.52
Pennsylvania, Maryland, and Virginia	2	24	6.0	5.9	69.0	70.7	102	24.50	25.11
Michigan and Ohio	5	120	6.0	5.8	50.0	50.3	100	24.65	24.76
Total	21	578	6.0	5.8	50.5	51.6	102	24.49	25.06
Two weeks or one half month									
Pennsylvania, Maryland, and Virginia	9	244	13.5	12.6	111.0	109.1	98	54.50	53.56
Michigan and Ohio	2	131	12.0	11.5	96.0	95.6	100	47.14	46.94
Wisconsin and Minnesota	2	52	14.0	11.3	112.0	91.4	82	50.96	41.62
Total	13	427	13.1	12.1	106.5	102.8	97	51.87	50.08
Size makers									
One week:									
New England	8	11	6.1	6.1	51.3	55.4	108	27.86	30.12
New York	6	12	6.0	5.7	57.3	55.0	96	26.99	25.88
Pennsylvania, Maryland, and Virginia	2	2	6.0	6.0	56.3	57.8	103	24.38	24.99
Michigan and Ohio	5	8	6.0	6.0	53.8	57.8	108	27.76	29.84
Total	21	33	6.0	5.9	54.3	56.0	103	27.37	28.20
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	8	13	13.5	13.0	122.4	125.0	102	55.20	56.33
Wisconsin and Minnesota	2	2	14.0	13.5	126.0	136.0	108	66.15	71.43
Total	10	15	13.5	13.1	122.9	126.5	103	56.66	58.34
Machine tenders									
One week:									
New England	8	146	6.0	6.0	48.0	50.5	105	39.98	42.03
New York	6	66	6.0	6.0	48.0	48.9	102	42.00	42.80
Pennsylvania, Maryland, and Virginia	2	13	6.0	6.2	66.5	65.5	99	36.31	35.77
Michigan and Ohio	5	61	6.0	5.9	50.0	51.4	103	39.60	40.67
Total	21	286	6.0	6.0	49.3	51.0	103	40.28	41.63

TABLE B.—AVERAGE NUMBER OF DAYS WORKED, BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

BOOK-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—continued									
Machine tenders—Concluded.									
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	9	107	13.4	13.4	111.0	116.3	105	$94.68	$99.21
Michigan and Ohio	2	39	12.0	12.2	96.0	101.2	105	77.47	81.68
Wisconsin and Minnesota	2	21	14.0	13.7	112.0	112.3	100	86.24	86.41
Total	13	167	13.2	13.2	107.6	112.3	104	89.63	93.51
Back tenders									
One week:									
New England	8	149	6.0	6.1	48.0	51.6	108	28.85	31.00
New York	6	66	6.0	6.0	48.0	50.1	104	32.26	33.69
Pennsylvania, Maryland, and Virginia	2	13	6.0	6.2	66.5	66.8	101	28.53	28.65
Michigan and Ohio	5	63	6.0	5.8	49.7	50.4	101	29.62	30.06
Total	21	291	6.0	6.0	49.2	51.7	105	29.82	31.30
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	9	124	13.4	13.1	110.1	113.8	103	68.26	70.55
Michigan and Ohio	2	39	12.0	12.4	96.0	108.6	113	57.50	65.04
Wisconsin and Minnesota	2	22	14.0	12.8	112.0	107.5	96	65.18	62.55
Total	13	185	13.2	12.9	107.4	112.0	104	65.62	68.44
Third hands									
One week:									
New England	7	118	6.0	5.8	48.0	49.6	103	25.49	26.34
New York	6	66	6.0	5.9	48.0	49.1	102	27.98	28.64
Pennsylvania, Maryland, and Virginia	2	11	6.0	6.0	65.5	63.8	98	25.81	25.14
Michigan and Ohio	5	60	6.0	5.7	50.0	50.9	102	25.60	26.04
Total	20	255	6.0	5.8	49.2	50.4	102	26.17	26.82
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	8	94	13.5	12.6	112.6	110.4	98	54.84	53.79
Michigan and Ohio	2	40	12.0	11.2	96.0	94.2	98	45.02	44.19
Wisconsin and Minnesota	2	20	14.0	12.9	112.0	106.8	95	53.65	51.18
Total	12	154	13.2	12.3	108.2	105.7	98	52.15	50.96
Fourth hands									
One week:									
New England	5	63	6.0	5.4	48.0	45.8	95	23.09	22.03
New York	5	56	6.0	5.7	48.0	50.1	104	26.02	27.13
Pennsylvania, Maryland, and Virginia	2	5	6.0	6.2	57.6	63.1	110	22.29	24.40
Michigan and Ohio	5	72	6.0	5.7	49.6	49.5	100	22.47	22.42
Total	17	196	6.0	5.6	48.8	48.8	100	23.67	23.67
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	5	70	13.9	12.7	111.1	107.0	96	51.77	49.81
Wisconsin and Minnesota	2	23	14.0	11.2	112.0	93.4	83	48.50	40.46
Total	7	93	13.9	12.3	111.3	103.6	93	50.98	47.50

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

BOOK-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—continued									
Coating machine runners									
One week:									
New England	2	43	6.0	5.9	48.0	48.0	100	$34.75	$34.75
Two weeks or one-half month:									
Michigan and Ohio	3	85	13.2	13.0	107.7	115.7	107	59.99	64.49
Calender men									
One week:									
New England	5	135	6.0	5.9	48.4	50.2	104	31.36	32.55
New York	4	55	6.0	5.8	48.3	50.8	105	29.66	31.24
Michigan and Ohio	4	54	6.0	5.9	49.0	50.0	102	27.98	28.52
Total	13	244	6.0	5.9	48.5	50.3	104	30.22	31.36
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	7	102	13.6	13.0	114.2	116.1	102	59.04	59.98
Michigan and Ohio	2	79	12.0	11.5	96.0	102.4	107	50.21	53.57
Wisconsin and Minnesota	2	20	14.0	13.1	112.0	106.8	95	59.36	56.60
Total	11	201	13.0	12.4	106.8	109.8	103	55.54	57.12
Cutter men									
One week:									
New England	5	33	6.0	5.8	49.6	53.5	108	25.00	26.98
New York	2	11	6.0	5.6	54.8	54.5	99	28.06	27.91
Pennsylvania, Maryland, and Virginia	2	3	6.0	6.0	63.5	65.5	103	27.56	28.46
Michigan and Ohio	4	14	6.0	6.0	51.7	51.8	100	26.94	26.97
Total	13	61	6.0	5.9	51.7	53.9	104	26.11	27.22
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	6	38	13.2	12.0	122.8	113.4	92	57.72	53.27
Michigan and Ohio	3	105	12.1	11.7	105.3	108.8	103	47.28	48.86
Total	9	143	12.4	11.8	110.0	110.0	100	50.05	50.05
Plater men									
Two weeks or one-half month:									
Michigan and Ohio	2	10	12.4	12.2	112.1	111.7	100	63.56	63.37
Trimmers									
One week:									
New England	3	13	6.0	6.0	52.4	57.7	110	33.27	36.63
New York	4	17	6.0	6.0	56.0	59.8	107	33.77	36.07
Michigan and Ohio	4	30	6.0	5.8	49.1	47.5	97	27.94	27.03
Total	11	60	6.0	5.9	51.8	53.2	103	30.82	31.67
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	14	13.5	13.1	126.7	124.9	99	71.08	70.05
Michigan and Ohio	2	32	12.1	11.9	101.6	106.3	105	58.93	61.65
Total	6	46	12.5	12.3	109.3	111.9	102	62.74	64.21

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

BOOK-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—concluded									
Packers									
One week:									
New England	6	83	6.0	5.8	50.9	52.4	103	$28.10	$28.94
New York	6	117	6.0	5.8	54.4	53.4	98	26.82	26.32
Pennsylvania, Maryland, and Virginia	2	18	6.0	5.9	52.2	51.8	99	28.92	28.72
Michigan and Ohio	5	67	6.0	5.7	50.9	49.3	97	24.74	23.97
Total	19	285	6.0	5.8	52.4	52.1	99	26.83	26.68
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	9	116	13.5	12.7	121.3	113.8	94	68.05	63.84
Michigan and Ohio	2	53	12.0	11.2	110.7	110.3	100	52.69	52.55
Wisconsin and Minnesota	2	22	14.0	13.5	125.7	122.8	98	55.18	53.88
Total	13	191	13.1	12.4	118.9	113.9	96	62.18	59.56
Laborers									
One week:									
New England	8	362	6.0	5.8	51.5	51.1	99	24.21	24.00
New York	6	237	6.0	5.5	55.8	51.8	93	24.27	22.55
Pennsylvania, Maryland, and Virginia	2	48	6.0	5.5	55.3	50.6	91	19.13	17.54
Michigan and Ohio	5	144	6.0	5.6	51.4	48.3	94	21.02	19.75
Total	21	791	6.0	5.7	53.0	50.8	96	23.37	22.40
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	9	208	13.4	12.0	125.4	113.3	90	51.79	46.78
Michigan and Ohio	2	128	12.0	11.5	107.8	110.4	102	44.52	45.61
Wisconsin and Minnesota	2	78	14.0	12.1	123.7	106.8	86	49.85	43.03
Total	13	414	13.1	11.9	119.6	111.2	93	49.16	45.71
Other employees									
One week:									
New England	8	1,384	6.0	6.0	50.9	52.4	103	27.79	28.63
New York	6	660	6.0	5.9	52.1	52.2	100	28.76	28.79
Pennsylvania, Maryland, and Virginia	2	104	6.0	5.9	62.0	60.8	98	26.60	26.06
Michigan and Ohio	5	457	6.0	5.8	50.7	50.9	100	24.54	24.64
Total	21	2,605	6.0	5.9	51.6	52.4	102	27.45	27.87
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	9	1,037	13.6	12.8	120.5	116.8	97	57.48	55.68
Michigan and Ohio	2	522	12.0	11.6	105.8	107.6	102	53.01	53.88
Wisconsin and Minnesota	2	137	14.1	13.1	121.4	116.1	96	51.72	49.51
Total	13	1,696	13.1	12.4	116.1	113.9	98	55.73	54.63

TABLE B.—AVERAGE NUMBER OF DAYS WORKED, BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

BOOK-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
FEMALES									
Cutter girls									
One week:									
New England	7	132	6.0	5.9	50.8	49.7	98	$18.39	$17.96
New York	3	29	6.0	5.8	52.9	50.6	96	18.14	17.39
Michigan and Ohio	3	28	6.0	5.8	51.1	48.6	95	16.05	15.28
Total	13	189	6.0	5.9	51.1	49.6	97	17.99	17.48
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	9	82	13.0	12.3	117.2	107.2	91	37.39	34.17
Michigan and Ohio	2	100	12.0	11.8	98.2	95.3	97	30.15	29.23
Wisconsin and Minnesota	2	14	14.0	12.4	125.7	110.7	88	35.20	30.99
Total	13	196	12.5	12.0	108.1	101.3	94	33.51	31.42
Plater girls									
Two weeks or one-half month:									
Michigan and Ohio	2	35	13.0	12.4	108.6	102.2	94	36.49	34.35
Sorters									
One week:									
New England	6	303	6.0	5.8	52.6	50.5	96	17.57	16.86
New York	2	3	6.0	6.0	54.0	54.3	101	19.06	19.17
Michigan and Ohio	2	9	6.0	6.0	50.0	50.0	100	15.75	15.75
Total	10	315	6.0	5.8	52.5	50.5	96	17.54	16.85
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	5	88	13.7	12.7	123.9	112.6	91	33.08	30.08
Michigan and Ohio	2	160	12.0	11.6	100.3	96.1	96	27.78	26.64
Total	7	248	12.6	12.0	108.7	102.0	94	29.68	27.86
Counters									
One week:									
New England	5	42	6.0	5.8	51.4	49.2	96	19.74	18.90
New York	4	43	6.0	5.7	51.6	48.0	93	18.58	17.29
Michigan and Ohio	4	99	6.0	5.7	50.0	47.6	95	15.76	14.98
Total	13	184	6.0	5.7	50.7	48.1	95	17.34	16.42
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	6	64	13.3	12.5	123.5	113.6	92	32.73	30.16
Michigan and Ohio	2	32	12.0	11.7	101.0	96.3	95	32.42	30.93
Wisconsin and Minnesota	2	33	14.0	12.1	125.8	108.9	87	39.00	33.76
Total	10	129	13.1	12.2	118.5	108.1	91	34.25	31.27
Other employees									
One week:									
New England	3	22	6.0	6.0	53.2	52.0	98	19.63	19.18
New York	2	22	6.0	5.9	45.8	42.0	92	14.56	13.36
Michigan and Ohio	3	134	6.0	5.7	48.8	46.0	94	15.52	14.64
Total	8	178	6.0	5.7	49.0	46.2	94	15.93	15.04

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

BOOK-PAPER MILLS—Concluded

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
FEMALES—concluded									
Other employees—Concluded									
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	6	62	13.5	12.2	122.2	108.4	89	$30.43	$26.94
Michigan and Ohio	2	42	12.0	11.7	102.8	91.9	89	40.30	36.02
Wisconsin and Minnesota	2	12	14.0	10.3	126.0	86.7	69	42.21	29.04
Total	10	116	13.0	11.8	115.6	100.2	87	35.14	30.45

NEWSPRINT MILLS

MALES									
Beater engineers									
One week:									
New England	10	36	6.0	6.0	48.0	49.0	102	$37.58	$38.35
New York	13	46	6.0	6.0	49.0	52.0	106	37.19	39.49
Total	23	82	6.0	6.0	48.6	50.7	104	37.37	38.99
Two weeks or one-half month:									
Michigan and Ohio	2	5	13.0	13.0	104.0	104.6	101	87.15	87.66
Wisconsin and Minnesota	8	24	13.4	13.6	110.0	112.7	102	71.72	73.51
Pacific coast	5	27	14.0	14.3	112.0	117.9	105	66.64	70.16
Total	15	56	13.7	13.9	110.4	114.5	104	70.55	73.16
Beater men									
One week:									
New England	8	69	6.1	5.8	48.0	50.7	106	23.57	24.89
New York	11	158	6.0	5.7	48.0	49.0	102	21.84	22.27
Total	19	227	6.0	5.8	48.0	49.5	103	22.46	23.07
Two weeks or one-half month:									
Michigan and Ohio	2	14	13.0	12.9	104.0	112.5	108	44.82	48.45
Wisconsin and Minnesota	8	78	13.3	12.9	109.3	107.9	99	49.29	48.70
Pacific coast	4	126	14.0	12.5	112.0	105.3	94	49.95	46.91
Total	14	218	13.7	12.7	110.5	106.7	97	49.39	47.65
Size makers									
One week:									
New England	3	3	6.0	6.7	52.0	56.7	109	32.08	34.97
New York	3	4	6.0	6.3	48.0	49.1	102	20.83	21.31
Total	6	7	6.0	6.4	49.7	52.4	105	25.79	27.16
Two weeks or one-half month:									
Wisconsin and Minnesota	2	2	14.5	14.5	130.5	141.1	108	62.25	67.24
Pacific coast	5	5	14.0	14.8	126.0	138.1	110	57.83	63.35
Total	7	7	14.1	14.7	127.3	139.0	109	59.07	64.46
Machine tenders									
One week:									
New England	10	125	6.0	5.8	48.0	50.5	105	46.61	49.03
New York	14	142	6.0	5.9	48.0	49.8	104	45.84	47.51
Total	24	267	6.0	5.9	48.0	50.1	104	46.22	48.22

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

NEWSPRINT MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—continued									
Machine tenders—Concluded									
Two weeks or one-half month:									
Michigan and Ohio	2	9	13.0	13.0	104.0	106.3	102	$124.70	$127.46
Wisconsin and Minnesota	9	58	13.5	12.8	110.3	110.2	100	104.12	104.03
Pacific coast	5	84	14.0	14.0	112.0	114.8	102	95.54	97.91
Total	16	151	13.8	13.5	110.9	112.5	101	100.59	102.02
Back tenders									
One week:									
New England	10	127	6.0	5.8	48.0	50.1	104	37.10	38.70
New York	14	137	6.0	5.8	48.0	51.0	106	36.82	39.10
Total	24	264	6.0	5.8	48.0	50.5	105	36.96	38.91
Two weeks or one-half month:									
Michigan and Ohio	2	10	13.0	12.7	104.0	105.4	101	104.94	106.33
Wisconsin and Minnesota	9	60	13.6	12.6	110.4	110.8	100	85.23	85.57
Pacific coast	5	85	14.0	13.9	112.0	114.1	102	76.27	77.64
Total	16	155	13.8	13.3	110.9	112.2	101	81.62	82.56
Third hands									
One week:									
New England	10	125	6.0	5.8	48.0	48.9	102	31.44	32.02
New York	14	134	6.0	5.9	48.0	51.0	107	31.30	33.49
Total	24	259	6.0	5.8	48.0	50.2	105	31.34	32.78
Two weeks or one-half month:									
Michigan and Ohio	2	9	13.0	12.7	104.0	105.8	102	80.70	82.12
Wisconsin and Minnesota	9	57	13.6	12.6	110.6	108.9	98	69.68	68.65
Pacific coast	5	82	14.0	12.7	112.0	105.5	94	66.42	62.53
Total	16	148	13.8	12.6	111.0	106.8	96	68.71	66.08
Fourth hands									
One week:									
New England	8	103	6.0	5.8	48.0	49.5	103	25.54	26.32
New York	13	117	6.0	5.8	48.0	49.9	104	24.58	25.54
Total	21	220	6.0	5.8	48.0	49.7	104	25.01	25.91
Two weeks or one-half month:									
Michigan and Ohio	2	9	13.0	12.9	104.0	104.4	100	67.60	67.93
Wisconsin and Minnesota	9	56	13.5	12.5	110.3	107.1	97	55.15	53.52
Pacific coast	5	50	14.0	12.7	112.0	103.6	93	52.19	48.30
Total	16	115	13.7	12.6	110.5	105.4	95	54.92	52.38
Cutter men									
One week:									
New England	4	9	6.0	6.0	48.0	47.3	99	22.42	22.10
New York	6	23	6.0	6.0	48.5	49.4	102	22.84	23.27
Total	10	32	6.0	6.0	48.4	48.8	101	22.75	22.94
Two weeks or one-half month:									
Wisconsin and Minnesota	4	8	13.5	10.8	126.0	101.6	81	60.61	48.89
Pacific coast	4	13	14.0	12.6	126.0	116.4	92	57.83	53.48
Total	8	21	13.8	11.9	126.0	110.8	88	58.84	51.73

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1913, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

NEWSPRINT MILLS—Concluded

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—concluded									
Trimmers									
One week:									
New York	2	2	6.0	6.0	48.0	46.4	97	$21.07	$20.38
Two weeks or one-half month:									
Pacific coast	2	5	14.0	11.6	126.0	109.8	87	58.09	50.61
Packers									
One week:									
New England	10	126	6.0	5.9	48.0	48.2	100	23.71	23.83
New York	14	122	6.0	5.7	48.7	48.7	100	22.50	22.50
Total	24	248	6.0	5.8	48.4	48.4	100	23.14	23.14
Two weeks or one-half month:									
Michigan and Ohio	2	7	13.0	11.9	104.0	98.1	94	45.03	42.48
Wisconsin and Minnesota	9	51	13.8	13.0	116.4	111.5	96	52.15	49.91
Pacific coast	5	55	14.0	14.1	126.0	124.6	99	55.94	55.27
Total	16	113	13.9	13.5	120.3	117.1	97	53,53	52.06
Laborers									
One week:									
New England	10	346	6.0	5.7	48.0	46.9	98	22.08	21.56
New York	14	247	6.0	5.6	48.8	46.7	96	21.62	20.69
Total	24	593	6.0	5.7	48.3	46.8	97	21.88	21.19
Two weeks or one-half month:									
Michigan and Ohio	2	17	13.0	9.9	104.0	83.2	80	46.59	37.27
Wisconsin and Minnesota	9	92	13.7	12.7	117.7	109.4	93	48.61	45.21
Pacific coast	5	309	14.0	11.0	126.0	98.2	78	51.91	40.48
Total	16	418	13.9	11.3	123.3	100.0	81	51.05	41.39
Other employees									
One week:									
New England	10	912	6.0	6.3	48.2	53.1	110	31.04	34.16
New York	14	959	6.0	6.1	49.2	52.3	106	30.55	32.82
Total	24	1,871	6.0	6.2	48.7	52.7	108	30.92	33.48
Two weeks or one-half month:									
Michigan and Ohio	2	71	13.4	13.5	107.9	117.5	109	68.19	74.20
Wisconsin and Minnesota	9	179	13.7	13.4	120.3	119.1	99	58.71	58.11
Pacific coast	5	685	14.1	13.1	124.1	118.1	95	65.77	62.64
Total	16	935	13.9	13.2	122.2	118.3	97	64.77	62.65
FEMALES									
Cutter girls									
One week:									
New England	5	19	6.0	5.8	48.0	46.8	97	17.04	16.62
New York	6	24	6.0	5.5	49.0	44.0	90	17.00	15.24
Total	11	43	6.0	5.7	48.6	45.2	93	17.06	15.85
Two weeks or one-half month:									
Wisconsin and Minnesota	4	11	13.6	13.4	125.1	125.0	100	36.03	36.03
Pacific coast	2	11	14.0	11.0	112.0	88.0	79	38.75	30.47
Total	6	22	13.8	12.2	118.5	106.5	90	36.97	33.25
Other employees									
Two weeks or one-half month:									
Wisconsin and Minnesota	3	17	8.7	8.6	124.4	75.5	61	36.08	21.89

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

WRAPPING-PAPER MILLS

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES									
Beater engineers									
One week:									
New England	5	20	6.0	5.9	50.4	50.5	100	$40.77	$40.85
New York	4	14	6.0	5.8	51.4	53.5	104	31.76	33.13
Michigan and Ohio	2	5	6.0	6.2	57.6	58.7	102	38.65	39.38
Total	11	39	6.0	5.9	51.7	52.6	102	37.22	37.89
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	9	13.3	13.3	141.9	145.7	103	80.60	82.82
Michigan and Ohio	3	15	13.6	13.5	116.3	119.6	103	90.13	92.71
Wisconsin and Minnesota	6	21	13.7	13.0	109.7	110.8	101	75.80	76.61
Total	13	45	13.6	13.2	118.3	120.7	102	81.51	83.22
Beater men									
One week:									
New England	5	153	6.0	5.7	48.0	48.7	101	23.23	23.57
New York	4	38	6.0	5.8	49.3	50.6	103	21.99	22.55
Michigan and Ohio	2	7	6.0	5.7	61.7	58.0	94	32.21	30.25
Total	11	198	6.0	5.7	48.7	49.4	101	23.28	23.61
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	51	13.4	12.6	145.9	139.7	96	60.69	58.17
Michigan and Ohio	3	64	12.8	11.1	109.0	102.0	94	55.81	52.23
Wisconsin and Minnesota	6	97	13.7	13.6	109.9	114.4	104	50.11	52.21
Total	13	212	13.4	12.6	118.3	116.7	99	54.42	53.65
Size makers									
One week:									
New England	5	7	6.0	6.1	53.1	57.1	108	28.57	30.74
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	3	5	13.8	14.2	130.4	129.6	99	63.90	63.54
Wisconsin and Minnesota	5	6	13.7	13.5	125.3	124.4	99	60.39	59.91
Total	8	11	13.7	13.8	127.6	126.8	99	62.01	61.56
Machine tenders									
One week:									
New England	5	64	6.0	5.9	48.0	49.6	103	44.64	46.17
New York	4	19	6.0	5.8	50.5	52.2	103	41.41	42.79
Michigan and Ohio	2	14	6.0	6.2	61.7	65.5	106	40.91	43.46
Total	11	97	6.0	5.9	50.5	52.4	104	43.48	45.12
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	34	13.6	13.6	133.0	134.7	101	97.49	98.69
Michigan and Ohio	3	29	13.4	13.2	119.2	125.8	106	92.02	97.19
Wisconsin and Minnesota	6	74	13.6	13.5	109.2	112.6	103	92.93	95.80
Total	13	137	13.6	13.5	117.2	120.9	103	93.88	96.81

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

WRAPPING-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period—		Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
			By establishments	By employees					
MALES—continued									
Back tenders									
One week:									
New England	5	65	6.0	5.9	48.0	49.0	102	$34.46	$35.23
New York	4	19	6.0	5.6	50.5	55.2	109	32.42	35.47
Michigan and Ohio	2	13	6.0	6.2	60.9	64.5	106	32.40	34.34
Total	11	97	6.0	5.9	50.2	52.3	104	33.73	35.16
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	34	13.6	13.4	133.0	137.3	103	77.14	79.67
Michigan and Ohio	3	34	13.4	12.6	118.8	120.5	101	74.13	75.15
Wisconsin and Minnesota	6	70	13.7	13.5	109.3	112.2	103	67.44	69.20
Total	13	138	13.6	13.2	117.5	120.4	102	71.44	73.25
Third hands									
One week:									
New England	5	63	6.0	5.6	48.0	47.8	100	29.33	29.23
New York	4	20	6.0	5.9	50.4	50.0	99	27.01	26.79
Michigan and Ohio	2	10	6.0	6.1	57.6	57.5	100	29.89	29.85
Total	11	93	6.0	5.7	49.5	49.3	100	28.86	28.77
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	33	13.6	13.7	132.3	139.7	106	64.17	67.73
Michigan and Ohio	3	25	13.3	12.2	119.7	118.7	99	64.28	63.69
Wisconsin and Minnesota	6	71	13.7	13.6	109.3	113.8	104	56.40	58.69
Total	13	129	13.6	13.4	117.2	121.3	104	59.89	61.97
Fourth hands									
One week:									
New England	5	60	6.0	5.8	48.0	48.0	100	24.29	24.29
New York	4	20	6.0	5.5	50.4	49.6	98	22.98	22.65
Total	9	80	6.0	5.7	48.6	48.4	100	23.96	23.87
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	3	14	13.8	13.5	140.3	144.1	103	58.22	59.81
Michigan and Ohio	3	21	13.5	12.0	128.0	124.3	97	66.69	64.82
Wisconsin and Minnesota	6	80	13.8	13.1	110.4	108.2	98	49.02	48.00
Total	12	115	13.7	13.0	117.3	115.5	99	53.37	52.51
Calender men									
Two weeks or one-half month:									
Wisconsin and Minnesota	2	5	14.0	13.6	117.6	119.1	101	72.21	73.12
Cutter men									
One week:									
New England	4	17	6.0	6.0	50.1	51.7	103	25.70	26.56
New York	3	6	6.0	5.8	57.0	54.8	96	30.50	29.33
Total	7	23	6.0	6.0	51.9	52.5	101	26.94	27.28
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	3	10	13.3	12.7	127.9	133.2	104	61.65	64.19
Michigan and Ohio	3	9	12.9	11.7	119.1	108.0	91	58.95	53.45
Wisconsin and Minnesota	5	12	13.7	12.9	118.3	115.2	97	52.88	51.46
Total	11	31	13.3	12.5	121.6	118.9	98	57.40	56.14

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

WRAPPING-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—concluded									
Trimmer men									
One week:									
New York	2	3	6.0	6.0	54.0	62.0	115	$28.03	$32.17
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	2	2	13.0	13.0	123.0	124.0	101	56.83	57.24
Michigan and Ohio	2	4	13.5	10.3	129.5	100.1	77	66.95	51.72
Wisconsin and Minnesota	3	4	13.5	13.8	121.5	128.3	106	57.96	61.18
Total	7	10	13.4	12.2	125.0	116.2	93	60.88	56.61
Packers									
One week:									
New England	4	82	6.0	5.7	50.2	48.6	97	23.34	22.61
New York	4	35	6.0	5.8	56.6	56.4	100	24.56	24.50
Michigan and Ohio	2	5	6.0	5.8	54.0	54.2	100	29.48	29.64
Total	10	122	6.0	5.7	52.2	51.1	98	23.96	23.44
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	35	13.4	12.9	127.5	127.0	100	60.69	60.45
Michigan and Ohio	3	21	13.7	11.1	127.4	106.0	83	67.14	55.92
Wisconsin and Minnesota	6	70	13.8	13.6	124.5	122.8	99	54.66	53.94
Total	13	126	13.7	13.0	125.8	121.2	96	58.25	56.08
Laborers.									
One week:									
New England	5	217	6.0	5.7	48.6	47.6	98	23.38	22.94
New York	4	68	6.0	5.4	53.1	50.1	94	20.50	19.38
Total	9	285	6.0	5.6	49.7	48.2	97	22.76	22.09
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	90	13.7	12.4	126.6	122.6	97	50.01	48.36
Michigan and Ohio	5	79	13.1	11.6	131.9	120.1	91	55.93	50.97
Wisconsin and Minnesota	6	180	13.8	12.3	120.4	108.8	90	49.73	44.99
Total	15	349	13.6	12.2	124.6	114.9	92	51.21	47.21
Other employees									
One week:									
New England	5	470	6.0	6.0	48.5	51.2	106	30.22	31.92
New York	4	192	6.0	5.7	54.5	53.1	97	28.01	27.27
Michigan and Ohio	2	32	6.0	6.3	60.0	64.8	108	30.12	32.54
Total	11	694	6.0	5.9	50.7	52.4	103	29.66	30.66
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	4	156	13.2	13.0	137.5	137.3	100	64.49	64.41
Michigan and Ohio	3	206	13.2	12.1	124.9	117.3	94	64.20	60.28
Wisconsin and Minnesota	6	424	13.8	13.4	121.3	118.3	98	55.80	54.38
Total	13	786	13.5	13.0	125.5	121.8	97	59.61	57.91

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Concluded

WRAPPING-PAPER MILLS—Concluded

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
FEMALES									
Cutter girls									
One week:									
New England	4	37	6.0	5.5	51.1	46.4	91	$16.25	$14.75
New York	3	9	6.0	6.0	52.0	51.7	99	11.39	11.33
Total	7	46	6.0	5.6	51.3	47.5	93	15.24	14.08
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	3	16	13.6	13.0	122.1	115.3	94	34.80	32.89
Michigan and Ohio	3	18	13.1	12.3	113.3	108.3	96	35.58	34.01
Wisconsin and Minnesota	6	39	13.6	13.5	122.1	120.5	99	38.58	38.10
Total	12	73	13.5	13.1	119.9	116.3	97	37.05	35.95
Counters									
One week:									
New York	3	13	6.0	6.0	54.0	52.5	97	15.34	14.90
Michigan and Ohio	2	15	6.0	5.8	51.1	48.7	95	14.15	13.50
Total	5	28	6.0	5.9	52.4	50.5	96	14.67	14.15
Two weeks or one-half month:									
Pennsylvania, Maryland, and Virginia	3	23	13.9	12.0	122.1	102.8	84	38.10	32.03
Wisconsin and Minnesota	3	14	13.3	13.2	115.6	114.4	99	36.53	36.13
Total	6	37	13.6	12.4	119.6	107.2	90	37.43	33.58
Other employees									
Two weeks or one-half month:									
Michigan and Ohio	3	16	12.4	11.3	113.0	103.6	92	31.19	28.57
Wisconsin and Minnesota	3	7	14.0	12.9	114.9	106.4	93	39.76	36.82
Total	6	23	12.9	11.7	113.6	104.5	92	33.74	31.08

WRITING-PAPER MILLS

MALES									
Beater engineers									
One week:									
New England	8	42	6.0	5.9	48.0	49.7	104	$41.90	$43.41
Pennsylvania, Maryland, and Virginia	2	13	6.0	6.0	66.5	66.8	101	79.33	79.76
Michigan and Ohio	7	22	6.0	6.1	48.0	53.3	111	35.18	39.07
Total	17	77	6.0	6.0	51.1	53.6	105	46.04	48.31
Two weeks or one-half month:									
Wisconsin and Minnesota	3	18	14.0	14.1	112.8	114.6	102	74.11	75.28

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

WRITING-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—continued									
Beater men									
One week:									
New England	8	136	6.0	5.7	48.0	48.1	100	$24.62	$24.70
Pennsylvania, Maryland, and Virginia	2	103	6.0	5.8	62.4	63.7	102	31.39	32.05
Michigan and Ohio	7	116	6.0	5.8	48.0	47.0	98	23.90	23.39
Total	17	355	6.0	5.8	52.2	52.3	100	26.36	26.40
Two weeks or one-half month:									
Wisconsin and Minnesota	3	81	14.0	13.5	112.0	115.8	103	50.40	52.07
Size maker									
One week:									
New England	8	15	6.0	5.8	50.1	51.0	102	26.35	26.80
Pennsylvania, Maryland, and Virginia	2	3	6.0	6.7	62.0	64.4	104	57.60	59.76
Michigan and Ohio	6	7	5.6	5.4	54.4	51.2	94	26.28	24.71
Total	16	25	5.9	5.8	52.7	52.6	100	30.20	30.17
Two weeks or one-half month:									
Wisconsin and Minnesota	3	9	14.0	13.8	132.2	133.8	101	54.60	55.24
Machine tenders									
One week:									
New England	8	67	6.0	5.8	48.0	51.7	108	43.73	47.11
Pennsylvania, Maryland, and Virginia	2	30	6.0	6.0	56.0	59.5	106	61.10	64.89
Michigan and Ohio	7	40	6.0	6.1	48.0	51.8	108	39.74	42.93
Total	17	137	6.0	5.9	49.8	53.4	107	46.36	49.78
Two weeks or one-half month:									
Wisconsin and Minnesota	3	31	14.0	14.2	112.0	120.7	108	81.76	88.17
Back tenders									
One week:									
New England	8	68	6.0	5.7	48.0	51.0	106	30.19	32.05
Pennsylvania, Maryland, and Virginia	2	32	6.0	6.2	56.3	60.9	108	44.81	48.43
Michigan and Ohio	7	40	6.0	6.1	48.0	51.4	107	30.34	32.50
Total	17	140	6.0	5.9	49.9	53.4	107	33.58	35.92
Two weeks or one-half month:									
Wisconsin and Minnesota	3	33	14.0	14.0	112.0	118.1	105	54.77	57.80
Third hands									
One week:									
New England	8	50	6.0	5.4	48.0	47.2	98	25.01	24.62
Pennsylvania, Maryland, and Virginia	2	30	6.0	5.9	56.0	58.6	105	30.91	32.35
Michigan and Ohio	7	40	6.0	6.1	48.0	51.8	108	25.63	27.64
Total	17	120	6.0	5.7	50.0	51.6	103	26.70	27.56
Two weeks or one-half month:									
Wisconsin and Minnesota	3	32	14.0	13.9	112.0	116.4	104	47.38	49.21

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

WRITING-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—continued									
Fourth hands									
One week:									
New England	3	13	6.0	5.8	48.0	52.4	109	$23.71	$25.86
Michigan and Ohio	3	18	6.0	5.7	48.0	50.4	105	21.84	22.92
Total	6	31	6.0	5.8	48.0	51.2	107	22.66	24.15
Loftmen									
One week:									
New England	5	46	6.0	5.7	49.3	48.7	99	29.88	29.53
Calender men									
One week:									
New England	5	30	6.0	5.7	48.3	49.9	103	28.98	29.93
Pennsylvania, Maryland, and Virginia	2	21	6.0	5.8	49.7	50.2	101	28.88	29.16
Michigan and Ohio	6	23	6.0	5.9	52.7	53.3	101	30.04	30.38
Total	13	74	6.0	5.8	50.1	51.0	102	29.31	29.85
Two weeks or one-half month:									
Wisconsin and Minnesota	3	16	14.0	14.2	126.0	131.6	104	62.50	65.19
Cutter men									
One week:									
New England	6	36	6.0	5.9	49.3	49.4	100	24.01	24.09
Pennsylvania, Maryland, and Virginia	2	34	6.0	5.9	54.0	54.7	101	30.08	30.49
Michigan and Ohio	6	34	6.0	6.0	51.9	51.2	99	25.79	25.44
Total	14	104	6.0	5.9	51.7	51.7	100	26.63	26.63
Two weeks or one-half month:									
Wisconsin and Minnesota	3	17	14.0	13.6	125.2	123.6	99	52.83	52.13
Plater men									
One week:									
New England	4	18	6.0	5.3	50.0	44.9	90	37.20	33.40
Michigan and Ohio	4	10	6.0	6.0	52.6	52.1	99	33.40	33.05
Total	8	28	6.0	5.5	50.9	47.4	93	35.68	33.28
Counters									
One week:									
New England	3	11	6.0	5.7	50.0	47.4	95	27.85	26.42
Trimmers									
One week:									
New England	7	27	6.0	5.6	49.7	49.1	99	32.45	32.05
Pennsylvania, Maryland, and Virginia	2	13	6.0	5.9	54.9	47.2	86	51.17	43.97
Michigan and Ohio	7	26	6.0	5.9	52.3	52.6	101	29.34	29.54
Total	16	66	6.0	5.8	51.7	50.1	97	34.48	33.41
Two weeks or one-half month:									
Wisconsin and Minnesota	3	18	14.0	14.2	124.2	128.6	104	55.27	57.20

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Continued

WRITING-PAPER MILLS—Continued

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period— By establishments	Average number of days worked in pay period— By employees	Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
MALES—concluded									
Packers									
One week:									
New England	8	58	6.0	5.7	50.4	48.9	97	$25.15	$24.39
Pennsylvania, Maryland, and Virginia	2	59	6.0	5.8	54.0	49.2	91	33.59	30.62
Michigan and Ohio	7	64	6.0	5.9	52.4	54.5	104	26.57	27.61
Total	17	181	6.0	5.8	52.3	51.0	97	28.29	27.56
Two weeks or one-half month:									
Wisconsin and Minnesota	3	21	14.0	13.8	123.8	124.7	101	50.76	51.16
Laborers									
One week:									
New England	8	130	6.0	5.4	50.7	48.6	96	21.80	20.92
Pennsylvania, Maryland, and Virginia	2	85	6.0	5.8	54.9	54.5	99	26.02	25.83
Michigan and Ohio	7	105	6.0	5.9	51.6	51.4	100	21.98	21.90
Total	17	320	6.0	5.7	52.1	51.1	98	22.98	22.55
Two weeks or one-half month:									
Wisconsin and Minnesota	3	76	14.0	13.0	123.5	117.4	95	49.40	46.92
Other employees									
One week:									
New England	8	456	6.0	5.8	49.6	50.2	101	27.68	28.03
Pennsylvania, Maryland, and Virginia	2	204	6.0	6.1	56.4	56.6	100	32.88	33.00
Michigan and Ohio	7	277	6.0	6.0	52.3	54.1	104	27.09	28.02
Total	17	937	6.0	5.9	51.9	52.7	102	28.65	29.10
Two weeks or one-half month:									
Wisconsin and Minnesota	3	212	14.0	13.3	117.4	117.9	100	52.24	52.41
FEMALES									
Cutter girls									
One week:									
New England	5	35	6.0	5.6	48.0	45.3	94	18.96	17.90
Pennsylvania, Maryland, and Virginia	2	53	6.0	5.8	52.8	48.5	92	16.05	14.78
Michigan and Ohio	4	37	6.0	5.8	50.0	47.7	95	15.65	14.92
Total	11	125	6.0	5.7	50.6	47.4	94	16.75	15.70
Two weeks or one-half month:									
Wisconsin and Minnesota	3	39	14.0	13.6	124.0	120.3	97	35.71	34.65
Plater girls									
One week:									
New England	4	117	6.0	5.4	48.0	42.5	89	20.26	17.94
Michigan and Ohio	4	101	6.0	5.9	52.5	46.7	89	21.26	18.92
Total	8	218	6.0	5.6	50.1	44.4	89	20.74	18.39

TABLE B.—AVERAGE NUMBER OF DAYS WORKED BY ESTABLISHMENTS AND EMPLOYEES, AND AVERAGE HOURS AND EARNINGS, 1923, BY OCCUPATION, SEX, LENGTH OF PAY PERIOD, AND REGION—Concluded

WRITING-PAPER MILLS—Concluded

Occupation, sex, pay period, and region	Number of establishments	Number of employees	Average number of days worked in pay period—		Average full-time hours per pay period	Average hours actually worked in one pay period	Per cent of full time worked	Average full-time earnings per pay period	Average earnings actually received in pay period
			By establishments	By employees					
FEMALES—concluded									
Sorters									
One week:									
New England	7	74	6.0	5.5	48.6	44.9	92	$20.12	$18.59
Michigan and Ohio	4	32	6.0	5.5	52.3	43.9	84	26.67	22.36
Total	11	106	6.0	5.5	49.7	44.6	90	21.97	19.73
Two weeks or one-half month:									
Wisconsin and Minnesota	3	54	14.0	12.9	124.9	114.3	92	35.22	32.28
Counters									
One week:									
New England	6	21	6.0	5.2	51.1	44.1	86	19.52	16.86
Pennsylvania, Maryland, and Virginia	2	103	6.0	5.8	54.0	44.9	83	20.84	17.31
Michigan and Ohio	6	66	6.0	5.7	50.0	46.9	94	16.15	15.14
Total	14	190	6.0	5.7	52.3	45.5	87	18.98	16.51
Two weeks or one-half month:									
Wisconsin and Minnesota	2	23	14.0	13.8	126.0	123.8	98	39.06	38.42
Other employees									
One week:									
New England	7	66	6.0	5.6	48.0	45.0	94	20.78	19.48
Michigan and Ohio	4	50	6.0	5.6	53.7	46.2	86	24.43	21.00
Total	11	116	6.0	5.6	50.4	45.5	90	22.33	20.13
Two weeks or one-half month:									
Wisconsin and Minnesota	3	36	14.0	13.4	123.1	116.1	94	36.68	34.62

TABLE C.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR IN SELECTED OCCUPATIONS, 1923, BY OCCUPATION, SEX, AND REGION

PULP MILLS

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Number of employees whose earnings per hour were—																	
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 90 cents	90 and under 100 cents	100 and under 125 cents	125 and under 150 cents	150 cents and over
MALES																					
Grinder men:																					
New England	14	278	$0.526			1	7	2	12	27	116	87	25			1					
New York	17	360	.495					7	49	129	136	33	3	2		1					
Michigan and Ohio	3	51	.472						11	31	4	4		1							
Wisconsin and Minnesota	11	150	.469				2	4	9	126	9										
Pacific coast	5	215	.487						2	159	48	6									
Total	50	1,054	.497			1	9	13	83	472	313	130	28	3		2					
Acid makers:																					
New England	11	32	.671									4	11	9	4	2	2				
New York	12	29	.595						2		6	6	5	8	2						
Pennsylvania, Maryland, and Virginia	5	12	.589					1		3		3			4	1					
Michigan and Ohio	5	13	.631								2	2	2	4	2	1					
Wisconsin and Minnesota	9	27	.593							3	7	3	9	2	3						
Pacific coast	5	15	.597								3	1	8	3							
Total	47	128	.617					1	2	6	18	19	35	26	15	4	2				
Cooks, sulphite:																					
New England	11	34	.743										3	7	13	4	2	5			
New York	12	32	.682							1	1	4	2	5	10	4	5				
Pennsylvania, Maryland, and Virginia	5	16	.757							2	2			3		2	3	3	1		
Michigan and Ohio	5	13	.655								1	3		1	8						
Wisconsin and Minnesota	9	28	.697								1	3	6	4	7	4	3				
Pacific coast	5	16	.646									2	4	9	1						
Total	47	139	.702							3	5	12	15	29	39	14	13	8	1		

TABLE C.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR IN SELECTED OCCUPATIONS, 1923, BY OCCUPATION, SEX, AND REGION—Continued

PULP MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Number of employees whose earnings per hour were—																	
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 90 cents	90 and under 100 cents	100 and under 125 cents	125 and under 150 cents	150 cents and over
MALES—concluded																					
Cooks, sulphate:																					
New England	3	9	$0.640										6	3							
Pennsylvania, Maryland, and Virginia	2	4	.443						3	1											
Wisconsin and Minnesota	4	12	.627								1	3	2	6							
Louisiana	3	7	.473							4	3										
Total	12	32	.574						3	5	4	3	8	9							
Blow-pit men:																					
New England	11	49	.508						4	25	10	8	2								
New York	12	38	.452					2	14	18	3	1									
Pennsylvania, Maryland, and Virginia	5	18	.469					8		4		6									
Michigan and Ohio	4	14	.490						1	7	6										
Wisconsin and Minnesota	9	35	.455						12	23											
Pacific coast	5	21	.462						4	17											
Total	46	175	.474					10	35	94	19	15	2								
Diffuser men:																					
New England	3	9	.599									4	5								
Pennsylvania, Maryland, and Virginia	2	6	.413				1		5												
Wisconsin and Minnesota	5	16	.532								2	7	6								
Louisiana	3	7	.405						7												
Total	13	37	.505				1		12	2	7	10	5								
Evaporator men:																					
New England	3	9	.544								5	3	1								
Pennsylvania, Maryland, and Virginia	2	4	.432						4												

Wisconsin and Minnesota	4	12	.532							3	3	4	2								
Louisiana	3	7	.407						7												
Total	12	32	.496						11	3	8	7	3								
Caustic men:																					
New England	3	9	.611									3	4	2							
Pennsylvania, Maryland, and Virginia	2	6	.381					4	2												
Wisconsin and Minnesota	4	10	.546								6	3	1								
Louisiana	3	9	.413						8	1											
Total	12	34	.499					4	10	1	6	6	5	2							
Laborers:																					
New England	22	1,199	.436			7	11	41	672	305	143	13	4	3							
New York	20	1,151	.427				4	131	709	261	36	3	1	3			2	1			
Pennsylvania, Maryland, and Virginia	7	331	.385		26	34	7	174	3	72	4	11									
Michigan and Ohio	8	378	.466					6	202	59	93	18									
Wisconsin and Minnesota	16	1,513	.407				62	499	763	186	2		1								
Pacific coast	5	579	.427					2	467	99	4	7									
Louisiana	3	42	.202	21	7	14															
Total	81	5,193	.422	21	33	55	84	853	2,816	982	282	52	6	6			2	1			
FEMALES																					
Rag sorters:																					
New England	8	257	.352		2	25	59	158	13												
Michigan and Ohio	4	43	.359		1	6	19	7	5	1	4										
Wisconsin and Minnesota	3	126	.275	15	5	86	19	1													
Total	15	426	.330	15	8	117	97	166	18	1	4										

BOOK-PAPER MILLS

MALES																					
Beater men:																					
New England	8	298	$0.505							188	86	10	4	8	2						
New York	6	136	.472						17	99	20										
Pennsylvania, Maryland, and Virginia	11	268	.479				17	4	110	21	87	12	6	2		1	8				
Michigan and Ohio	7	251	.492							166	73	12									
Wisconsin and Minnesota	2	52	.455						29	23											
Total	34	1,005	.488				17	4	156	497	266	34	10	10	2	1	8				

TABLE C.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR IN SELECTED OCCUPATIONS, 1923, BY OCCUPATION, SEX, AND REGION—Continued

BOOK PAPER MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Number of employees whose earnings per hour were—																	
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 90 cents	90 and under 100 cents	100 and under 125 cents	125 and under 150 cents	150 cents and over
MALES—concluded.																					
Machine tenders:																					
New England	8	146	$0.833											6	5	43	72	15	5		
New York	6	66	.875												9	3	28	23	3		
Pennsylvania, Maryland, and Virginia	11	120	.820						2	3	3	1	1	1	12	13	54	24	6		
Michigan and Ohio	7	100	.798											2	5	48	44	1			
Wisconsin and Minnesota	2	21	.770											1	1	17	2				
Total	34	453	.825						2	3	3	1	1	10	32	124	200	63	14		
Back tenders:																					
New England	8	149	.601								6	83	39	7	12	2					
New York	6	66	.672							9	3		3	25	16	5	5				
Pennsylvania, Maryland, and Virginia	11	137	.602				2	6		9	3	35	62	7	4	7	1	1			
Michigan and Ohio	7	102	.597								1	68	23	10							
Wisconsin and Minnesota	2	22	.582									16	6								
Total	34	476	.609				2	6		18	13	202	133	49	32	14	6	1			
Third hands:																					
New England	7	118	.531						5	44	23	36	7	3							
New York	6	66	.583							12	5	7	38	4							
Pennsylvania, Maryland, and Virginia	10	105	.477				11	3	5	51	24	2	6	3							
Michigan and Ohio	7	100	.495						2	45	52	1									
Wisconsin and Minnesota	2	20	.479							15	5										
Total	32	409	.514				11	3	12	167	109	46	51	10							
Calender men:																					
New England	5	135	.648						1		1	18	48	42	20	2	3				
New York	4	55	.614								27	1	10	6	5	6					

Pennsylvania, Maryland, and Virginia	7	102	.517					4	9	34	31	3	21									
Michigan and Ohio	6	133	.542							37	33	50	13									
Wisconsin and Minnesota	2	20	.530						1	4	3	11	1									
Total	24	445	.577					4	11	75	95	83	93	48	25	8	3					
Laborers:																						
New England	8	362	.470					2	165	95	78	12	6	3	1							
New York	6	237	.435					14	175	46	2											
Pennsylvania, Maryland, and Virginia	11	256	.400			1	22	112	76	31	13	1										
Michigan and Ohio	7	272	.411				1	124	90	39	18											
Wisconsin and Minnesota	2	78	.403					48	29		1											
Total	34	1,205	.431			1	23	300	535	211	112	13	6	3	1							
FEMALES																						
Sorters:																						
New England	6	303	.334		1	28	205	36	23	8		2										
New York	2	3	.353			1		2														
Pennsylvania, Maryland, and Virginia	5	88	.267		53	13	7	7	4	4												
Michigan and Ohio	4	169	.279			155	12	2														
Total	17	563	.307		54	197	224	47	27	12		2										
Counters:																						
New England	5	42	.384				5	25	11					1								
New York	4	43	.360				13	30														
Pennsylvania, Maryland, and Virginia	6	64	.265	1	20	24	19															
Michigan and Ohio	6	131	.316		2	20	96	13														
Wisconsin and Minnesota	2	33	.310				33															
Total	23	313	.320	1	22	44	166	68	11					1								

NEWSPRINT MILLS

MALES																						
Beater men:																						
New England	8	69	$0.491						3	48	12	5		1								
New York	11	158	.455						99	42	7	9	1									
Michigan and Ohio	2	14	.431						12	2												
Wisconsin and Minnesota	8	78	.451					1	40	32	4	1										
Pacific coast	4	126	.446						90	27	8	1										
Total	33	445	.457					1	244	151	31	16	1	1								

TABLE C.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR IN SELECTED OCCUPATIONS, 1923, BY OCCUPATION, SEX, AND REGION—Continued

NEWSPRINT MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Number of employees whose earnings per hour were—																	
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 90 cents	90 and under 100 cents	100 and under 125 cents	125 and under 150 cents	150 cents and over
MALES—concluded																					
Machine tenders:																					
New England	10	125	$0.971													6	37	39	37	6	
New York	14	142	.955											1	5	4	19	56	57		
Michigan and Ohio	2	9	1.199																9		
Wisconsin and Minnesota	9	58	.944											3		1	23	10	21		
Pacific coast	5	84	.853											9	12	20	17	10	16		
Total	40	418	.943											13	17	31	96	115	140	6	
Back tenders:																					
New England	10	127	.773								1	5	9	24	28	14	35	6	2	3	
New York	14	137	.767										14	13	30	28	45	7			
Michigan and Ohio	2	10	1.009															2	8		
Wisconsin and Minnesota	9	60	.772									8	14	9		3	17	6	3		
Pacific coast	5	85	.681				1				5	28	9	12	9		14	3	4		
Total	40	419	.758				1				6	33	40	63	76	45	111	24	17	3	
Third hands:																					
New England	10	125	.655									6	57	43	10	3	3				
New York	14	134	.652							3	11		53	36	24	7					
Michigan and Ohio	2	9	.776													9					
Wisconsin and Minnesota	9	57	.630							3	5	11	11	10	14	3					
Pacific coast	5	82	.593							8	28	11	13	12	5	2	3				
Total	40	407	.641							14	44	28	134	101	56	24	6				
Laborers:																					
New England	10	346	.460						166	132	30	2	14		1	1					
New York	14	247	.443					3	169	35	30	9	1								
Michigan and Ohio	2	17	.448						8	8	1										
Wisconsin and Minnesota	9	92	.413					23	51	15	1	2									
Pacific coast	5	309	.412					1	289	15	4										
Total	40	1,011	.437					27	683	205	66	13	15		1	1					

MALES																					
Beater men:																					
New England	5	153	$0.484						40	97	1	3	12								
New York	4	38	.446					4	19	7	8										
Pennsylvania, Maryland, and Virginia	4	51	.416					34	2	4		10	1								
Michigan and Ohio	5	71	.513						5	26	18	19	2	1							
Wisconsin and Minnesota	6	97	.456						38	54	5										
Total	24	410	.470					38	104	188	32	32	15	1							
Machine tenders:																					
New England	5	64	.930												3	19	27	15			
New York	4	19	.820											3	3	8	5				
Pennsylvania, Maryland, and Virginia	4	34	.733									7	4	3	1	3	13	3			
Michigan and Ohio	5	43	.737									4	4		6	14	15				
Wisconsin and Minnesota	6	74	.851												23	6	32	6	4	2	1
Total	24	234	.832									11	8	6	30	29	87	41	19	2	1
Back tenders:																					
New England	5	65	.718									12	6	5	19	8	14	1			
New York	4	19	.642								3	3	5	6	2						
Pennsylvania, Maryland, and Virginia	4	34	.580					1	1	6	4	2	10	9		1					
Michigan and Ohio	5	47	.599						5	2		2	16	16	5	1					
Wisconsin and Minnesota	6	70	.617								24	1	19	22	1			3			
Total	24	235	.638					1	6	8	31	20	56	58	27	10	14	4			
Third hands:																					
New England	5	63	.611							10	6	1	29	14	1	2					
New York	4	20	.536							6	7	4	2	1							
Pennsylvania, Maryland, and Virginia	4	33	.485					3	8	5	13	4									
Michigan and Ohio	5	35	.532					2	2	6	9		14	2							
Wisconsin and Minnesota	6	71	.516						12	13	14	28	1	3							
Total	24	222	.543					5	22	40	49	37	46	20	1	2					
Calender men:																					
Wisconsin and Minnesota	2	5	.614							2					3						
Laborers:																					
New England	5	217	.481					9	54	17	129	7	1								
New York	4	68	.386					39	26	3											
Pennsylvania, Maryland, and Virginia	4	90	.395				14	47	8	12	7	1		1							
Michigan and Ohio	5	79	.424				1	2	55	15	6										
Wisconsin and Minnesota	6	180	.413					70	78	31	1										
Total	24	634	.432				15	167	221	78	143	8	1	1							

TABLE C.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR IN SELECTED OCCUPATIONS, 1923, BY OCCUPATION, SEX, AND REGION—Concluded

WRAPPING-PAPER MILLS—Concluded

Occupation, sex, and region	Number of establishments	Number of employees	Average earnings per hour	Number of employees whose earnings per hour were—																	
				Under 20 cents	20 and under 25 cents	25 and under 30 cents	30 and under 35 cents	35 and under 40 cents	40 and under 45 cents	45 and under 50 cents	50 and under 55 cents	55 and under 60 cents	60 and under 65 cents	65 and under 70 cents	70 and under 75 cents	75 and under 80 cents	80 and under 90 cents	90 and under 100 cents	100 and under 125 cents	125 and under 150 cents	150 cents and over
FEMALES																					
Counters:																					
New York	3	13	$0.284	------	1	9	------	3	------	------	------	------	------	------	------	------	------	------	------	------	------
Pennsylvania, Maryland, and Virginia	3	23	.312	------	------	7	16	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Michigan and Ohio	2	15	.277	------	3	7	4	1	------	------	------	------	------	------	------	------	------	------	------	------	------
Wisconsin and Minnesota	3	14	.316	------	------	------	14	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Total	11	65	.299	------	4	23	34	4	------	------	------	------	------	------	------	------	------	------	------	------	------

WRITING-PAPER MILLS

MALES																					
Beater men:																					
New England	8	136	$0.513	------	------	------	------	------	25	42	40	11	8	7	1	2	------	------	------	------	------
Pennsylvania, Maryland, and Virginia	2	103	.503	------	------	------	------	------	------	62	31	2	------	------	------	4	4	------	------	------	------
Michigan and Ohio	7	116	.498	------	------	------	------	------	28	25	38	25	------	------	------	------	------	------	------	------	------
Wisconsin and Minnesota	3	81	.450	------	------	------	------	------	63	12	3	3	------	------	------	------	------	------	------	------	------
Total	20	436	.495	------	------	------	------	------	116	141	112	41	8	7	1	6	4	------	------	------	------
Machine tenders:																					
New England	8	67	.911	------	------	------	------	------	------	------	------	------	------	------	------	20	16	14	17	------	------
Pennsylvania, Maryland, and Virginia	2	30	1.091	------	------	------	------	------	------	------	------	------	------	------	------	------	------	20	4	6	------
Michigan and Ohio	7	40	.828	------	------	------	------	------	------	------	------	------	1	------	1	5	27	4	2	------	------
Wisconsin and Minnesota	3	31	.730	------	------	------	------	------	------	------	------	------	------	------	27	4	------	------	------	------	------
Total	20	168	.890	------	------	------	------	------	------	------	------	------	1	------	28	29	43	38	23	6	------

Back tenders:																					
New England	8	68	.629								14	11	20	11	11	1					
Pennsylvania, Maryland, and Virginia	2	32	.796											21				10	1		
Michigan and Ohio	7	40	.632									7	16	8	9						
Wisconsin and Minnesota	3	33	.489							23	10										
Total	20	173	.634							23	24	18	36	40	20	1		10	1		
Third hands:																					
New England	8	50	.521						13	3	20	10	3		1						
Pennsylvania, Maryland, and Virginia	2	30	.552								20	8	2								
Michigan and Ohio	7	40	.534							6	21	9	4								
Wisconsin and Minnesota	3	32	.423					9	23												
Total	20	152	.510					9	36	9	61	27	9		1						
Calender men:																					
New England	5	30	.600									22	3	5							
Pennsylvania, Maryland, and Virginia	2	21	.581								4	14	1		2						
Michigan and Ohio	6	23	.570								3	14	6								
Wisconsin and Minnesota	3	16	.496							7	4	5									
Total	16	90	.569							7	11	55	10	5	2						
Laborers:																					
New England	8	130	.430				1	21	79	15	9	3		2							
Pennsylvania, Maryland, and Virginia	2	85	.474						7	62	16										
Michigan and Ohio	7	105	.426					11	64	25	4	1									
Wisconsin and Minnesota	3	76	.400					51	25												
Total	20	396	.433				1	83	175	102	29	4		2							
FEMALES																					
Sorters:																					
New England	7	74	.414			2	22	15	12	11	6	2	3	1							
Michigan and Ohio	4	32	.510				10	4		1	3	3	3	6	1			1			
Wisconsin and Minnesota	3	54	.282			53	1														
Total	14	160	.389			55	33	19	12	12	9	5	6	7	1			1			
Counters:																					
New England	6	21	.382				14	4			2						1				
Pennsylvania, Maryland, and Virginia	2	103	.386			23	33	14	4	10	5	3	1	6	2	1	1				
Michigan and Ohio	6	66	.323			15	46		5												
Wisconsin and Minnesota	2	23	.310				23														
Total	16	213	.358			38	116	18	9	10	7	3	1	6	2	1	2				

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION

PULP MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																								
						Number who during pay period worked—																						
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 40 hrs.	40 hrs.	Over 40 and under 44 hrs.	44 and under 48 hrs.	48 hrs.	Over 48 and under 50 hrs.	50 hrs.	Over 50 and under 52 hrs.	52 and under 54 hrs.	54 hrs.	Over 54 and under 56 hrs.	56 hrs.	Over 56 and under 58 hrs.	58 and under 60 hrs.	60 hrs.	Over 60 and under 66 hrs.	66 hrs.	Over 66 and under 72 hrs.	72 hrs.	Over 72 and under 78 hrs.	78 hrs.	Over 78 and under 84 hrs.	84 hrs. and over
MALES																												
Grinder men:																												
New England	14	278	50.6	220	57.5	----	----	1	1	68	4	2	4	3	1	3	44	2	9	13	30	3	8	3	4	5	9	3
New York	17	360	50.6	276	59.1	----	----	2	6	85	3	2	----	4	½	7	58	3	2	2	36	5	10	10	12	3	10	15
Total	31	638	50.6	496	58.4	----	----	3	7	153	7	4	4	7	2	10	102	5	11	15	66	8	18	13	16	8	19	18
Acid makers:																												
New England	11	32	50.4	29	57.5	----	1	----	1	8	----	----	----	----	----	1	6	1	----	2	4	----	2	----	----	----	3	----
New York	12	29	57.8	27	61.5	----	----	----	----	5	1	----	----	1	----	1	5	1	1	----	3	2	1	1	2	1	1	1
Total	23	61	53.9	56	59.4	----	1	----	1	13	1	----	----	1	----	2	11	2	1	2	7	2	3	1	2	1	4	1
Cooks, sulphite:																												
New England	11	34	50.8	29	56.3	1	1	1	----	9	----	----	----	2	----	----	3	1	----	1	6	1	----	----	----	1	1	1
New York	12	32	55.6	32	56.5	----	----	1	2	8	2	1	----	----	----	1	7	----	----	1	3	3	----	----	----	2	----	1
Total	23	66	53.1	61	56.4	1	1	2	2	17	2	1	----	2	----	1	10	1	----	2	9	4	----	----	----	3	1	2
Cooks, sulphate:																												
New England	3	9	50.7	7	48.6	----	----	----	----	6	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Pennsylvania, Maryland, and Virginia	2	4	72.0	4	76.0									1						1		1			1		1
Louisiana	3	7	61.7	5	66.0				1					1										1	1		1	
Total	8	20	58.8	16	60.9				1	6				2						1		1	1	1	1	1	1
Blow pit men:																												
New England	11	49	49.2	39	56.2		2		1	11	3			3		1	6		1		2		4	2	1		1	1
New York	12	38	55.3	33	58.2		1			13							3	1			6	4	1		1	1	1	1
Total	23	87	51.9	72	57.1		3		1	24	3			3		1	9	1	1		8	4	5	2	2	1	2	2
Diffuser men:																												
New England	3	9	50.7	6	51.6					3			1				1		1									
Pennsylvania, Maryland, and Virginia	2	6	72.0	6	79.8																		1		1	1	1	2
Louisiana	3	7	61.7	5	73.8									1											2		1	1
Total	8	22	60.0	17	68.1					3			1	1			1		1				1		3	1	2	3
Evaporator men:																												
New England	3	9	50.7	9	55.9					3				1			2			1	1		1					
Pennsylvania, Maryland, and Virginia	2	4	72.0	4	77.0																	1			1	1		1
Louisiana	3	7	61.7	6	67.5											2		1							1	1		1
Total	8	20	58.8	19	64.0					3				1		2	2	1		1	1	1	1		2	2		2
Caustic men:																												
New England	3	9	50.7	9	54.7					4							3				1		1					
Pennsylvania, Maryland, and Virginia	2	6	72.0	6	77.1																1	1			2	2		2
Louisiana	3	9	64.0	9	70.7						1		1			1							1		3			2
Total	8	24	61.0	24	66.3					4	1		1			1	3				2	1	2		3	2		4
Laborers																												
New England	22	1,199	51.4	885	55.9	1	4	12	63	134	29	18	45	99	47	26	50	18	64	98	86	7	38	11	10	1	14	10
New York	20	1,151	52.0	813	57.0	1	1	4	37	158	31	20	38	52	61	28	44	28	47	59	86	11	34	16	16	4	11	26
Pennsylvania, Maryland, and Virginia	3	142	65.1	99	66.0							3	2	1	2	1	3		9	6	19	6	29	1	8	4	5	
Louisiana	3	42	70.6	28	74.1				1		1									1			7	1	10		1	6
Total	48	2,534	52.7	1,825	57.2	2	5	16	101	292	61	41	85	152	110	55	97	46	120	164	191	24	108	29	44	9	31	42
FEMALES																												
Rag sorters:																												
New England	8	257	48.0	121	47.2	4		4	33	80																		
Michigan and Ohio	4	43	48.4	34	48.5				9	3		22																
Total	12	300	48.1	155	47.5	4		4	42	83		22																

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

PULP MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																										
						Number who during pay period worked—																								
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 96 hrs.	Over 96 and under 104 hrs.	104 hrs.	Over 104 and under 108 hrs.	108 hrs.	Over 108 and under 112 hrs.	112 hrs.	Over 112 and under 116 hrs.	116 and under 120 hrs.	120 hrs.	Over 120 and under 124 hrs.	124 and under 126 hrs.	126 hrs.	Over 126 and under 130 hrs.	130 and under 134 hrs.	134 and under 138 hrs.	138 and under 142 hrs.	142 and under 146 hrs.	146 and under 150 hrs.	150 and under 154 hrs.	154 and under 158 hrs.	158 and under 166 hrs.	166 and under 174 hrs.	174 and over
MALES																														
Grinder men:																														
Michigan and Ohio	3	51	118.9	19	125.5	----	----	----	----	----	----	----	----	8	----	----	2	----	4	1	2	1	1	----	----	----	----	----	----	----
Wisconsin and Minnesota	11	150	125.5	79	132.3	----	----	----	----	----	----	8	1	----	5	----	1	----	22	9	15	9	----	3	2	----	2	2	----	----
Pacific coast	5	215	122.2	66	132.1	----	----	----	----	----	2	9	5	2	2	----	1	----	2	7	18	7	1	1	2	1	5	----	1	
Total	19	416	123.0	164	131.4	----	----	----	----	----	2	17	6	10	7	----	4	----	28	17	35	17	2	4	4	1	7	2	1	
Acid makers:																														
Pennsylvania, Maryland, and Virginia	5	12	136.0	11	146.7	----	----	----	----	----	----	----	----	1	----	1	1	----	----	----	2	----	----	2	----	1	1	----	2	
Michigan and Ohio	5	13	131.7	11	136.1	----	----	----	----	1	----	1	----	1	----	----	----	----	4	----	----	2	----	----	----	----	----	----	2	
Wisconsin and Minnesota	9	27	112.9	25	123.4	1	----	----	2	----	1	1	2	----	4	2	1	1	1	3	5	----	----	1	----	----	----	----	----	
Pacific coast	5	15	115.2	12	121.8	----	----	1	----	----	----	2	----	2	1	1	2	----	----	1	1	----	1	----	----	----	----	----	----	
Total	24	67	121.2	59	129.8	1	----	1	2	1	1	4	2	4	5	4	4	1	5	4	8	----	3	3	----	1	1	----	5	
Cooks, sulphite:																														
Pennsylvania, Maryland, and Virginia	5	16	144.0	15	145.1	----	----	----	----	----	----	1	----	----	----	----	3	----	----	2	----	1	2	----	1	2	----	1	2	
Michigan and Ohio	5	13	131.7	12	129.5	----	----	1	1	2	----	----	1	1	----	----	----	----	1	----	1	----	2	----	----	----	----	1	1	

Wisconsin and Minnesota	9	28	113.7	23	128.9	1	----	----	2	1	1	----	1	1	2	1	3	----	2	----	2	1	1	----	1	1	----	1	1
Pacific coast	5	16	115.0	13	125.3	----	----	----	----	----	----	3	----	----	3	1	1	----	2	----	1	----	1	----	1	----	----	----	----
Total	24	73	123.8	63	132.1	1	----	1	3	3	1	4	2	2	5	2	7	----	5	2	4	2	6	----	3	3	----	3	4
Cooks, sulphate:																													
Wisconsin and Minnesota	4	12	112.0	9	125.4	----	----	----	----	----	----	----	1	4	----	----	----	----	2	1	----	----	----	----	----	----	1	----	----
Blow pit men:																													
Pennsylvania, Maryland, and Virginia	5	18	136.6	14	149.4	----	----	----	----	----	----	1	1	1	----	----	----	----	----	----	----	----	----	----	4	1	4	2	----
Michigan and Ohio	4	14	111.4	14	113.8	4	2	1	2	----	1	1	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	1	1
Wisconsin and Minnesota	9	35	111.5	27	121.4	----	----	1	----	----	1	5	3	3	4	1	1	1	2	1	2	----	1	1	----	----	----	----	----
Pacific coast	5	21	112.0	16	128.5	----	----	----	----	----	----	----	----	3	2	1	6	----	1	----	----	----	1	----	1	----	----	1	----
Total	23	88	116.8	71	127.0	4	2	2	2	----	2	7	4	7	6	3	7	1	3	1	2	----	2	1	5	1	4	4	1
Diffuser men:																													
Wisconsin and Minnesota	5	15	108.8	12	141.5	----	----	----	----	----	----	----	----	1	2	----	----	----	----	2	1	1	----	2	----	----	2	----	1
Evaporator men:																													
Wisconsin and Minnesota	4	12	108.0	11	122.1	1	----	----	----	----	----	2	1	1	----	----	1	----	1	3	----	----	1	----	----	----	----	----	----
Caustic men:																													
Wisconsin and Minnesota	4	10	110.4	9	130.7	----	----	----	----	----	----	1	1	----	1	----	1	----	1	----	1	----	2	----	1	----	----	----	----
Laborers:																													
Pennsylvania, Maryland, and Virginia	4	189	124.5	84	139.4	----	----	1	----	----	----	3	1	3	----	4	3	3	8	10	6	6	9	7	7	7	1	1	4
Michigan and Ohio	8	378	114.4	167	125.5	----	3	9	5	3	7	7	10	27	5	8	9	9	14	11	4	17	5	1	----	4	2	7	----
Wisconsin and Minnesota	16	1,513	123.7	680	128.3	6	4	4	1	27	14	21	27	36	40	53	34	87	85	45	57	47	34	17	16	7	11	2	5
Pacific coast	5	579	123.9	193	126.9	----	2	----	1	4	1	14	8	15	6	27	10	33	7	8	27	8	11	2	5	2	1	----	1
Total	33	2,659	122.4	1,124	128.5	6	9	14	7	34	22	45	46	81	51	92	56	132	114	74	94	78	59	27	28	20	15	10	10
FEMALES																													
Rag sorters:																													
Wisconsin and Minnesota	3	126	123.9	63	122.6	----	----	----	----	----	1	----	4	17	1	6	2	32	----	----	----	----	----	----	----	----	----	----	----

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

BOOK-PAPER MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																								
						Number who during pay period worked—																						
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 40 hrs.	40 hrs.	Over 40 and under 44 hrs.	44 and under 48 hrs.	48 hrs.	Over 48 and under 50 hrs.	50 hrs.	Over 50 and under 52 hrs.	52 and under 54 hrs.	54 hrs.	Over 54 and under 56 hrs.	56 hrs.	Over 56 and under 58 hrs.	58 and under 60 hrs.	60 hrs.	Over 60 and under 66 hrs.	66 hrs.	Over 66 and under 72 hrs.	72 hrs.	Over 72 and under 78 hrs.	78 hrs.	Over 78 and under 84 hrs.	84 hrs. and over
MALES																												
Beater men:																												
New England	8	298	48.0	263	50.7	2	----	4	----	176	22	3	-----	5	2	-----	22	4	----	1	12	----	2	3	-----	1	3	1
New York	6	136	53.3	120	59.1	----	----	-----	8	31	19	2	1	1	----	2	2	5	----	2	5	12	4	1	5	13	3	4
Pennsylvania, Maryland, and Virginia	2	24	69.0	23	71.9	----	----	-----	----	2	----	----	-----	-----	----	-----	1	----	----	----	----	5	1	5	-----	6	-----	3
Michigan and Ohio	5	120	50.0	107	52.0	----	----	-----	----	74	1	----	-----	1	2	-----	7	-----	----	7	10	1	3	----	1	----	-----	-----
Total	21	578	50.5	513	53.9	2	----	4	8	283	42	5	1	7	4	2	32	9	----	10	27	18	10	9	6	20	6	8
Machine tenders:																												
New England	8	146	48.0	137	51.6	----	----	1	3	62	9	9	7	13	3	6	2	2	2	6	9	----	-----	2	1	----	-----	-----
New York	6	66	48.0	59	50.7	----	----	-----	7	13	18	----	2	6	2	2	2	4	1	----	1	----	1	----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	2	13	66.5	12	65.5	----	----	-----	----	3	----	----	-----	-----	----	-----	-----	-----	----	-----	-----	5	-----	1	-----	-----	3	-----
Michigan and Ohio	5	61	50.0	59	51.9	----	----	-----	----	40	3	----	-----	1	----	-----	-----	2	1	1	8	----	1	2	-----	-----	-----	-----
Total	21	286	49.3	267	52.1	----	----	1	10	118	30	9	9	20	5	8	4	8	4	7	18	5	2	5	1	----	3	-----
Back tenders:																												
New England	8	149	48.0	144	52.0	----	2	-----	3	65	17	2	10	9	2	3	5	4	4	2	5	----	8	1	1	----	-----	1
New York	6	66	48.0	60	52.3	----	----	-----	6	14	18	1	5	1	1	-----	3	4	2	----	3	----	1	----	1	----	-----	-----

Pennsylvania, Maryland, and Virginia	2	13	66.5	12	67.9					3				1	2	1		4		1		7		3	1			1	1	2
Michigan and Ohio	5	63	49.7	61	51.6					39	4		1	2	1		4		1		7		1					1	
Total	21	291	49.2	277	52.7		2		9	121	39	3	16	12	4	3	12	8	7	3	15	3	11	1	2	1	2	3
Third hands:																												
New England	7	118	48.0	95	53.3				4	35	6	10		10	2	2	3	3	4	3	6		3		2		1	1
New York	6	66	48.0	59	50.2				9	17	18		2	3		1	2	3	2		1		1					
Pennsylvania, Maryland, and Virginia	2	11	65.5	10	64.8					3												3		2		1		1
Michigan and Ohio	5	60	50.0	51	54.4				1	28				1	1		3		1	2	9		4					1
Total	20	255	49.2	215	53.2				14	83	24	10	2	14	3	3	8	6	7	5	16	3	8	2	2	1	1	3
Calender men:																												
New England	5	135	48.4	124	50.8		2		3	91	2			3		1	7	2		4	2	1	1	3				2
New York	4	55	48.3	50	52.2				6	29	1		3				2		1		2	2	1	1		1	1	
Michigan and Ohio	4	54	49.0	52	50.7					35	3			2	1		5	1	1	1	1	2						
Total	13	244	48.5	226	51.1		2		9	155	6		3	5	1	1	14	3	2	5	5	5	2	4		1	1	2
Laborers:																												
New England	8	362	51.5	313	53.6	1		5	6	59	8	10	9	101	33	9	5	14	5	2	36	3	2	1	3		1	
New York	6	237	55.8	179	57.7	1				12	2	6	3	11	39	25	5	7	5	6	39	3	2		2	11		
Pennsylvania, Maryland, and Virginia	2	48	55.3	37	55.6					3			3	15		1	2		7	2	2		1	1				
Michigan and Ohio	5	144	51.4	124	51.8				2	19	4	39		1	54	1	1				2		1					
Total	21	791	53.0	653	54.5	2		5	8	93	14	55	15	128	126	36	13	21	17	10	79	6	6	2	5	11	1	
FEMALES																												
Sorters:																												
New England	6	303	52.6	266	52.1		1	1	6	31	13	3	3	167	41													
New York	2	3	54.0	3	54.3										2	1												
Michigan and Ohio	2	9	50.0	9	50.0							9																
Total	10	315	52.5	278	52.0		1	1	6	31	13	12	3	167	43	1												
Counters:																												
New England	5	42	51.4	38	51.1				2	13	2			12	8			1										
New York	4	43	51.6	34	50.9				3		11	7		3	9				1									
Michigan and Ohio	4	99	50.0	84	49.8				4		2	78																
Total	13	184	50.7	156	50.4				9	13	15	85		15	17			1	1									

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

BOOK-PAPER MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																										
						Number who during pay period worked—																								
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 96 hrs.	Over 96 and under 104 hrs.	104 hrs.	Over 104 and under 108 hrs.	108 hrs.	Over 108 and under 112 hrs.	112 hrs.	Over 112 and under 116 hrs.	116 and under 120 hrs.	120 hrs.	Over 120 and under 124 hrs.	124 and under 126 hrs.	126 hrs.	Over 126 and under 130 hrs.	130 and under 134 hrs.	134 and under 138 hrs.	138 and under 142 hrs.	142 and under 146 hrs.	146 and under 150 hrs.	150 and under 154 hrs.	154 and under 158 hrs.	158 and under 166 hrs.	166 and under 174 hrs.	174 hrs. and over
MALES																														
Beater men:																														
Pennsylvania, Maryland, and Virginia	9	244	111.0	166	118.5	----	3	9	17	----	----	35	25	27	4	11	6	----	1	7	1	1	12	3	2	1	----	----	1
Michigan and Ohio	2	131	96.0	96	101.5	51	6	17	2	1	3	9	2	1	2	----	1	----	1	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	52	112.0	29	108.5	6	4	2	----	1	1	1	6	5	----	1	1	1	----	----	----	----	----	----	----	----	----	----	----	----
Total	13	427	106.5	291	111.9	57	13	28	19	2	4	45	33	33	6	12	8	1	2	7	1	1	12	3	2	1	----	----	1
Machine tenders:																														
Pennsylvania, Maryland, and Virginia	9	107	111.0	96	119.3	----	6	----	11	4	2	8	6	13	2	11	4	5	6	8	3	2	1	4	----	----	----	----	----	----
Michigan and Ohio	2	39	96.0	31	104.8	5	9	1	5	1	3	----	5	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	21	112.0	21	112.3	----	3	----	1	----	1	2	9	4	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	13	167	107.6	148	115.3	5	18	1	17	5	6	10	20	19	2	12	4	5	6	8	3	2	1	4	----	----	----	----	----	----
Back tenders:																														
Pennsylvania, Maryland, and Virginia	9	124	110.1	101	119.1	----	8	1	9	2	4	2	12	18	4	17	3	2	5	----	4	4	----	5	1	----	----	----	----	----

Michigan and Ohio	2	39	96.0	36	110.9	4	8	2	6	----	5	----	3	1	----	----	1	----	2	1	1	----	----	----	1	1	----	----	----
Wisconsin and Minnesota	2	22	112.0	17	113.7	2	2	----	----	----	1	----	1	8	----	2	----	----	----	1	----	----	----	----	----	----	----	----	----
Total	13	185	107.4	154	116.6	6	18	3	15	2	10	2	16	27	4	19	4	2	7	2	5	4	----	5	2	1	----	----	----
Third hands:																													
Pennsylvania, Maryland, and Virginia	8	94	112.6	65	123.8	----	3	----	1	2	1	2	3	14	3	9	3	1	5	6	3	----	3	6	----	----	----	----	----
Michigan and Ohio	2	40	96.0	32	104.1	7	11	2	3	----	2	2	1	1	1	----	1	----	----	1	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	20	112.0	16	114.8	----	2	----	----	----	----	2	5	5	----	----	----	----	2	----	----	----	----	----	----	----	----	----	----
Total	12	154	108.2	113	116.9	7	16	2	4	2	3	6	9	20	4	9	4	1	7	7	3	----	3	6	----	----	----	----	----
Calender men:																													
Pennsylvania, Maryland, and Virginia	7	102	114.2	79	119.7	----	1	1	2	----	3	19	9	11	13	2	1	2	6	1	2	1	1	----	1	1	1	1	----
Michigan and Ohio	2	79	96.0	54	107.0	25	1	8	1	----	1	5	----	1	5	----	----	----	1	2	3	----	----	----	1	----	----	----	----
Wisconsin and Minnesota	2	20	112.0	18	114.1	----	----	----	1	----	4	10	1	----	----	1	----	----	----	----	----	----	----	1	----	----	----	----	----
Total	11	201	106.8	151	114.5	25	2	9	4	----	8	34	10	12	18	3	1	2	7	3	5	1	1	1	2	1	1	1	----
Laborers:																													
Pennsylvania, Maryland, and Virginia	9	208	125.4	127	130.4	----	----	----	----	2	----	----	3	6	9	15	8	26	11	17	12	1	2	----	3	3	4	4	1
Michigan and Ohio	2	128	107.8	106	115.1	10	15	4	4	1	17	----	8	4	14	3	2	----	7	7	2	4	2	1	----	1	----	----	----
Wisconsin and Minnesota	2	78	123.7	49	124.5	----	----	----	----	----	----	1	2	6	----	5	2	21	11	----	1	----	----	----	----	----	----	----	----
Total	13	414	119.6	282	123.7	10	15	4	4	3	17	1	13	16	23	23	12	47	29	24	15	5	4	1	3	4	4	4	1
FEMALES																													
Sorters:																													
Pennsylvania, Maryland, and Virginia	5	88	123.9	59	121.0	----	----	----	1	----	----	----	1	19	----	30	----	8	----	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	2	160	100.3	125	99.4	18	106	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	7	248	108.7	184	106.3	18	106	----	1	----	----	----	1	19	1	30	----	8	----	----	----	----	----	----	----	----	----	----	----
Counters:																													
Pennsylvania, Maryland, and Virginia	6	64	123.5	45	115.8	----	2	----	----	3	11	1	3	6	2	12	4	1	----	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	2	32	101.0	30	98.6	3	27	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	33	125.8	15	123.2	----	----	----	----	----	----	----	----	----	5	2	3	5	----	----	----	----	----	----	----	----	----	----	----
Total	10	129	118.5	90	111.3	3	29	----	----	3	11	1	3	6	7	14	7	6	----	----	----	----	----	----	----	----	----	----	----

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

NEWSPRINT MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																										
						Number who during pay period worked—																								
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 40 hrs.	40 hrs.	Over 40 and under 44 hrs.	44 and under 48 hrs.	48 hrs.	Over 48 and under 50 hrs.	50 hrs.	Over 50 and under 52 hrs.	52 and under 54 hrs.	54 hrs.	Over 54 and under 56 hrs.	56 hrs.	Over 56 and under 58 hrs.	58 and under 60 hrs.	60 hrs.	Over 60 and under 66 hrs.	66 hrs.	Over 66 and under 72 hrs.	72 hrs.	Over 72 and under 78 hrs.	78 hrs.	Over 78 and under 84 hrs.	84 hrs. and over
MALES																														
Beater men:																														
New England	8	69	48.0	59	54.0	----	----	----	----	33	----	----	1	1	2	1	3	3	----	4	4	----	2	4	1	----	----	----
New York	11	158	48.0	129	52.0	----	----	1	4	82	6	----	1	4	----	1	9	2	1	2	10	----	2	1	----	----	1	2
Total	19	227	48.0	188	52.6	----	----	1	4	115	6	----	2	5	2	2	12	5	1	6	14	----	4	5	1	----	1	2
Machine tenders:																														
New England	10	125	48.0	115	51.9	----	----	1	6	57	7	3	6	8	6	3	2	1	----	1	4	----	2	4	2	----	2	----
New York	14	142	48.0	131	50.7	----	----	----	7	65	3	9	17	7	2	3	3	6	3	2	1	----	1	1	1	----	----	----
Total	24	267	48.0	246	51.3	----	----	1	13	122	10	12	23	15	8	6	5	7	3	3	5	----	3	5	3	----	2	----
Back tenders:																														
New England	10	127	48.0	115	51.5	----	----	----	10	51	5	2	8	11	8	2	3	----	3	2	4	2	1	----	----	2	1	----
New York	14	137	48.0	120	52.6	----	----	1	4	48	6	4	16	8	2	2	6	3	5	1	4	1	3	2	2	1	1	----
Total	24	264	48.0	235	52.1	----	----	1	14	99	11	6	24	19	10	4	9	3	8	3	8	3	4	2	2	3	2	----

Third hands:																												
New England	10	125	48.0	107	50.6	----	----	----	4	63	4	3	5	8	2	4	1	----	6	1	4	1	----	----	1	----	----	----
New York	14	134	48.0	116	53.5	----	----	----	1	45	7	5	13	7	4	----	10	3	2	3	5	----	2	3	4	1	1	----
Total	24	259	48.0	223	52.1	----	----	----	5	108	11	8	18	15	6	4	11	3	8	4	9	1	2	3	5	1	1	----
Laborers:																												
New England	10	346	48.0	263	52.3	3	----	4	11	123	12	3	8	11	2	5	21	12	14	4	12	2	8	1	2	----	4	1
New York	14	247	48.8	187	52.1	----	----	----	10	81	16	9	8	7	4	6	7	7	6	1	14	4	6	----	----	----	----	1
Total	24	593	48.3	450	52.2	3	----	4	21	204	28	12	16	18	6	11	28	19	20	5	26	6	14	1	2	----	4	2

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

NEWSPRINT MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																										
						Number who during pay period worked—																								
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 96 hrs.	Over 96 and under 104 hrs.	104 hrs.	Over 104 and under 108 hrs.	108 hrs.	Over 108 and under 112 hrs.	112 hrs.	Over 112 and under 116 hrs.	116 and under 120 hrs.	120 hrs.	Over 120 and under 124 hrs.	124 and under 126 hrs.	126 hrs.	Over 126 and under 130 hrs.	130 and under 134 hrs.	134 and under 138 hrs.	138 and under 142 hrs.	142 and under 146 hrs.	146 and under 150 hrs.	150 and under 154 hrs.	154 and under 158 hrs.	158 and under 166 hrs.	166 and under 174 hrs.	174 hrs. and over
MALES																														
Beater men:																														
Michigan and Ohio	2	14	104.0	12	115.3	----	1	2	1	----	1	3	2	----	----	----	----	----	----	----	----	----	2	----	----	----	----	----
Wisconsin and Minnesota	8	78	109.3	63	115.2	1	8	----	2	----	5	13	10	5	2	4	1	1	4	2	3	1	----	1	----	----	----	----	----
Pacific coast	4	126	112.0	95	122.7	----	----	----	----	4	1	16	25	7	1	9	----	----	5	9	1	7	6	----	1	1	1	----	1
Total	14	218	110.5	170	119.4	1	9	2	3	4	7	32	37	12	3	13	1	1	9	11	4	8	6	3	1	1	1	----	1
Machine tenders:																														
Michigan and Ohio	2	9	104.0	9	106.3	----	----	4	2	1	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	9	58	110.3	44	118.9	----	1	1	3	----	5	8	5	7	1	2	----	----	3	2	2	1	1	1	----	----	1	----	----
Pacific coast	5	84	112.0	68	117.3	----	----	----	3	1	7	8	16	14	8	5	2	1	----	----	1	----	----	----	----	----	----	1	1
Total	16	151	110.9	121	117.0	----	1	5	8	2	14	16	21	21	9	7	2	1	3	2	3	1	1	1	----	----	1	1	1
Back tenders:																														
Michigan and Ohio	2	10	104.0	8	108.8	----	----	3	1	----	1	1	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	9	60	110.4	43	120.9	----	3	2	3	1	2	7	6	3	----	1	3	----	2	2	2	1	----	1	1	1	----	2	----
Pacific coast	5	85	112.0	68	116.8	----	1	----	----	2	10	6	11	19	7	4	2	----	2	3	----	----	----	1	----	----	----	----	----
Total	16	155	110.9	119	117.7	----	4	5	4	3	13	14	19	22	7	5	5	----	4	5	2	1	----	2	1	1	----	2	----

Third hands:																													
Michigan and Ohio	2	9	104.0	8	109.0	----	----	3	2	----	1	----	1	----	----	1	----	----	----	2	2	1	----	----	1	1	1	----	2	----
Wisconsin and Minnesota	9	57	110.6	34	122.8	----	1	----	2	2	----	7	4	4	----	3	1	----	----	4	3	1	----	2	----	----	----	----	----	----
Pacific coast	5	82	112.0	50	119.7	----	----	----	1	----	4	8	6	8	1	8	3	1	4	3	1	----	2	----	----	----	----	----	----
Total	16	148	111.0	92	119.9	----	1	3	5	2	5	15	11	12	1	12	4	1	6	5	2	----	2	1	1	1	----	2	----
Laborers:																													
Michigan and Ohio	2	17	104.0	7	113.5	1	----	1	----	1	----	----	----	2	----	----	----	2	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	9	92	117.7	64	120.8	----	4	----	1	2	1	7	7	5	3	3	5	7	11	2	2	2	1	1	----	----	----	----	----
Pacific coast	5	309	126.0	148	130.1	----	----	----	----	----	1	----	----	3	----	8	12	60	8	14	19	6	9	4	3	----	1	----	----
Total	16	418	123.3	219	126.9	1	4	1	1	3	2	7	7	10	3	11	17	69	19	16	21	8	10	5	3	----	1	----	----

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

WRAPPING-PAPER MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																								
						Number who during pay period worked—																						
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 40 hrs.	40 hrs.	Over 40 and under 44 hrs.	44 and under 48 hrs.	48 hrs.	Over 48 and under 50 hrs.	50 hrs.	Over 50 and under 52 hrs.	52 and under 54 hrs.	54 hrs.	Over 54 and under 56 hrs.	56 hrs.	Over 56 and under 58 hrs.	58 and under 60 hrs.	60 hrs.	Over 60 and under 66 hrs.	66 hrs.	Over 66 and under 72 hrs.	72 hrs.	Over 72 and under 78 hrs.	78 hrs.	Over 78 and under 84 hrs.	84 hrs. and over
MALES																												
Beater men:																												
New England	5	153	48.0	128	51.2	1	----	-----	3	89	2	----	-----	1	1	1	17	1	1	----	6	----	-----	2	-----	----	2	1
New York	4	38	49.3	28	55.2	----	----	-----	1	8	3	----	-----	----	5	1	2	2	----	----	2	1	1	----	-----	1	1	----
Michigan and Ohio	2	7	61.7	5	63.7	----	----	-----	----	----	2	----	-----	----	----	----	----	----	----	----	----	----	1	----	2	----	----	----
Total	11	198	48.7	161	52.3	1	----	-----	4	97	7	----	-----	1	6	2	19	3	1	----	8	1	2	2	2	1	3	1
Machine tenders:																												
New England	5	64	48.0	60	50.5	----	----	-----	----	44	3	----	2	2	1	1	----	-----	1	----	4	----	1	----	-----	----	1	----
New York	4	19	50.5	15	56.9	----	----	-----	----	2	3	----	-----	1	1	-----	3	-----	----	----	2	1	1	----	-----	1	----	----
Michigan and Ohio	2	14	61.7	14	65.5	----	----	-----	----	----	1	----	3	1	1	----	----	----	----	----	----	----	3	----	2	1	1	1
Total	11	97	50.5	89	54.0	----	----	-----	----	46	7	----	5	4	3	1	3	-----	1	----	6	1	5	----	2	2	2	----
Back tenders:																												
New England	5	65	48.0	60	49.9	----	----	2	----	44	4	1	1	1	----	1	1	-----	1	----	2	----	1	----	-----	----	1	----
New York	4	19	50.5	16	60.6	1	----	-----	2	2	1	1	-----	----	----	-----	----	1	----	1	1	----	----	----	1	2	1	1
Michigan and Ohio	2	13	60.9	12	64.7	----	----	-----	----	----	1	----	4	----	----	1	----	-----	----	----	-----	----	2	----	1	1	-----	2
Total	11	97	50.2	88	53.9	1	----	2	2	46	6	2	5	1	----	2	1	1	1	1	3	1	3	----	2	3	2	3

Third hands:																											
New England	5	63	48.0	47	50.6			1	2	23	4	1	1	1	1	3	7	2									
New York	4	20	50.4	18	52.8					4	5		1	5			1					1				1		
Michigan and Ohio	2	10	57.6	9	59.5							1	2	1				1	1				2		1			
Total	11	93	49.5	74	52.2			1	2	27	9	2	4	7	1	3	8	3	1		1	1	2		1	1		
Laborers:																											
New England	5	217	48.6	183	50.2		1	4	3	107	14	2	7	6	16	1	9	1	3		8					1	
New York	4	68	53.1	46	57.9					6	1		1	6	9	3	5	2	1		3	1	4		1	2		1
Total	9	285	49.7	229	51.8		1	4	3	113	15	2	8	12	25	4	14	3	4		11	1	4		1	2	1	1
FEMALES																											
Counters:																											
New York	3	13	54.0	13	52.5				2				2	1	6	1	1										
Michigan and Ohio	2	15	51.1	11	50.4				1			8			2												
Total	5	28	52.4	24	51.5				3			8	2	1	8	1	1										

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

WRAPPING-PAPER MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																												
						Number who during pay period worked—																												
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 96 hrs.	Over 96 and under 104 hrs.	104 hrs.	Over 104 and under 108 hrs.	108 hrs.	Over 108 and under 112 hrs.	112 hrs.	Over 112 and under 116 hrs.	116 and under 120 hrs.	120 hrs.	Over 120 and under 124 hrs.	124 and under 126 hrs.	126 hrs.	Over 126 and under 130 hrs.	130 and under 134 hrs.	134 and under 138 hrs.	138 and under 142 hrs.	142 and under 146 hrs.	146 and under 150 hrs.	150 and under 154 hrs.	154 and under 158 hrs.	158 and under 162 hrs.	166 and under 170 hrs.	174 hrs. and over
MALES																																
Beater men:																																
Pennsylvania, Maryland, and Virginia	4	51	145.9	32	147.4	----	----	----	----	----	----	3	----	----	5	----	----	----	1	----	1	----	----	----	1	13	4	3	1			
Michigan and Ohio	3	64	109.0	42	120.6	7	7	----	----	1	2	8	----	2	----	3	1	----	1	----	----	1	1	----	----	1	3	2	2			
Wisconsin and Minnesota	6	97	109.9	85	116.8	1	2	----	1	----	3	22	27	7	3	6	----	1	2	3	5	----	1	----	----	----	----	1	----			
Total	13	212	118.3	159	124.0	8	9	----	1	1	5	33	27	9	8	9	1	4	4	3	6	1	2	----	1	14	7	6	3			
Machine tenders:																																
Pennsylvania, Maryland, and Virginia	4	34	133.0	28	137.1	----	----	----	----	----	----	2	2	2	5	1	1	2	1	----	----	----	----	----	----	2	9	1	----			
Michigan and Ohio	3	29	119.2	26	128.2	1	4	----	----	----	1	1	7	1	----	1	1	----	1	1	----	----	----	----	1	----	1	4	1			
Wisconsin and Minnesota	6	74	109.2	66	115.6	4	4	----	1	----	1	9	22	11	1	4	2	----	2	3	----	----	----	----	----	----	2	----	----			
Total	13	137	117.2	120	123.4	5	8	----	1	----	2	12	31	14	6	6	4	2	4	4	----	----	----	----	1	2	12	5	1			
Back tenders:																																
Pennsylvania, Maryland, and Virginia	4	34	133.0	25	142.2	----	----	----	----	----	----	2	----	----	2	1	1	----	----	1	1	4	3	----	3	3	3	1	----			
Michigan and Ohio	3	34	118.8	26	127.5	----	3	----	----	----	2	1	7	3	----	1	----	1	----	----	2	----	----	1	----	----	1	2	2			
Wisconsin and Minnesota	6	70	109.3	56	114.9	2	5	1	1	----	3	6	17	6	2	6	----	1	----	4	1	----	1	----	----	----	----	----	----			
Total	13	138	117.5	107	124.3	2	8	1	1	----	5	9	24	9	4	8	1	2	----	5	4	4	4	1	3	3	4	3	2			

Third hands:																													
Pennsylvania, Maryland, and Virginia	4	33	132.3	26	143.6	----	----	----	----	----	----	1	----	1	2	1	1	----	2	----	3	1	2	----	1	5	3	2	1
Michigan and Ohio	3	25	119.7	16	122.6	----	----	1	2	----	3	----	3	2	----	2	----	----	1	----	----	----	----	----	----	----	----	----	2
Wisconsin and Minnesota	6	71	109.3	55	118.1	1	3	1	1	----	----	7	15	9	1	6	1	----	3	1	----	3	1	2	----	----	----	----	----
Total	13	129	117.2	97	125.7	1	3	2	3	----	3	8	18	12	3	9	2	----	6	1	3	4	3	2	1	5	3	2	3
Calender men:																													
Wisconsin and Minnesota	2	5	117.6	4	117.4	----	----	----	----	----	----	3	----	----	----	----	----	----	----	1	----	----	----	----	----	----	----	----	----
Laborers:																													
Pennsylvania, Maryland, and Virginia	4	90	126.6	47	134.4	----	2	----	1	----	1	2	----	2	5	----	5	2	2	1	9	2	2	2	1	2	4	----	2
Michigan and Ohio	5	79	131.9	54	132.1	1	----	----	1	3	----	----	3	3	----	7	3	2	1	3	3	9	1	1	10	1	2	----	----
Wisconsin and Minnesota	6	180	120.4	117	126.3	2	1	1	----	4	3	7	11	13	----	7	6	30	3	3	5	5	4	3	1	----	4	1	3
Total	15	349	124.6	218	129.5	3	3	1	2	7	4	9	14	18	5	14	14	34	6	7	17	16	7	6	12	3	10	1	5
FEMALES																													
Counters:																													
Pennsylvania, Maryland, and Virginia	3	23	122.1	9	118.0	----	1	----	----	----	1	----	----	2	----	2	1	2	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	3	14	115.6	13	115.6	----	----	----	1	3	----	3	1	----	1	----	1	3	----	----	----	----	----	----	----	----	----	----	----
Total	6	37	119.6	22	116.6	----	1	----	1	3	1	3	1	2	1	2	2	5	----	----	----	----	----	----	----	----	----	----	----

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

WRITING-PAPER MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																								
						Number who during pay period worked—																						
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 40 hrs.	40 hrs.	Over 40 and under 44 hrs.	44 and under 48 hrs.	48 hrs.	Over 48 and under 50 hrs.	50 hrs.	Over 50 and under 52 hrs.	52 and under 54 hrs.	54 hrs.	Over 54 and under 56 hrs.	56 hrs.	Over 56 and under 58 hrs.	58 and under 60 hrs.	60 hrs.	Over 60 and under 66 hrs.	66 hrs.	Over 66 and under 72 hrs.	72 hrs.	Over 72 and under 78 hrs.	78 hrs.	Over 78 and under 84 hrs.	84 hrs. and over
MALES																												
Beater men:																												
New England	8	136	48.0	117	50.9	----	----	----	9	75	2	2	2	5	----	----	8	2	1	----	3	----	2	6	----	----	----	----
Pennsylvania, Maryland and Virginia	2	103	62.4	74	68.6	----	----	----	----	----	1	2	1	1	2	----	1	1	4	1	5	1	25	----	27	1	1	----
Michigan and Ohio	7	116	48.0	96	49.3	----	----	3	2	69	1	----	2	6	1	1	6	----	3	1	1	----	----	----	----	----	----	----
Total	17	355	52.2	287	54.9	----	----	3	11	144	4	4	5	12	3	1	15	3	8	2	9	1	27	6	27	1	1	----
Machine tenders:																												
New England	8	67	48.0	61	54.0	----	----	----	3	26	2	2	2	6	3	----	2	2	2	----	2	----	2	6	----	----	----	1
Pennsylvania, Maryland, and Virginia	2	30	56.0	28	61.3	----	----	----	3	2	----	1	----	1	----	1	1	4	1	1	1	2	5	1	4	----	----	----
Michigan and Ohio	7	40	48.0	39	52.2	----	----	----	1	7	2	7	5	2	5	2	----	5	2	1	----	----	----	----	----	----	----	----
Total	17	137	49.8	128	55.0	----	----	----	7	35	4	10	7	9	8	3	3	11	5	2	3	2	7	7	4	----	----	1
Back tenders:																												
New England	8	68	48.0	58	54.4	----	----	----	3	16	3	----	----	8	2	1	9	4	2	----	4	----	4	1	1	----	----	----
Pennsylvania, Maryland, and Virginia	2	32	56.3	30	62.1	----	----	----	----	2	----	2	1	1	----	2	2	1	5	1	1	----	6	----	6	----	----	----
Michigan and Ohio	7	40	48.0	35	52.9	----	----	----	----	9	1	4	2	2	5	3	2	3	1	1	1	----	1	----	----	----	----	----
Total	17	140	49.9	123	55.9	----	----	----	3	27	4	6	3	11	7	6	13	8	8	2	6	----	11	1	7	----	----	----

Third hands:																											
New England	8	50	48.0	38	54.2				3	9		3	1	4	1	2	6		1	3	1		3		1			
Pennsylvania, Maryland and Virginia	2	30	56.0	21	63.8				1			1	1	2	2		3	1			1		2	1	6			
Michigan and Ohio	7	40	48.0	36	53.3				2	4	3	1	2	10	4	1	2	2	1		2		2					
Total	17	120	50.0	95	55.8				6	13	3	5	4	16	7	3	11	3	2	3	4		7	1	7			
Calender men:																											
New England	5	30	48.3	26	53.3				3	13		2					1		1				6					
Pennsylvania, Maryland, and Virginia	2	21	49.7	10	54.7				1				3	2	1					2			1					
Michigan and Ohio	6	23	52.7	20	54.2					12	1		1				1				1			4				
Total	13	74	50.1	56	53.8				4	25	1	2	4	2	1		2		1	2	1		7	4				
Laborers:																											
New England	8	130	50.7	90	54.5				1	7	1	29	2	6	16	4	2	1	3		11	3	3					1
Pennsylvania, Maryland, and Virginia	2	85	54.9	62	58.2				1		1	4	2	4	11	12		2	4	7	2	1	7		3		1	
Michigan and Ohio	7	105	51.6	92	53.3				3	8	1	17	16	6	11	13	1	3	6		4		2		1			
Total	17	320	52.1	244	55.0				5	15	3	50	20	16	38	29	3	6	13	7	17	4	12		4		1	1
FEMALES																											
Sorters:																											
New England	7	74	48.6	51	48.9				5	36				6	4													
Michigan and Ohio	4	32	52.3	23	48.0				17			5							1									
Total	11	106	49.7	74	48.6				22	36		5		6	4				1									
Counters:																											
New England	6	21	51.1	13	50.6				1	5				3	4													
Pennsylvania, Maryland, and Virginia	2	103	54.0	74	45.9	2	32	2	6	2		2	1	14	13													
Michigan and Ohio	6	66	50.0	53	48.8			1	16			34			1	1												
Total	14	190	52.3	140	47.4	2	32	3	23	7		36	1	17	18	1												

TABLE D.—AVERAGE AND CLASSIFIED ACTUAL HOURS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Concluded

WRITING-PAPER MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																										
						Number who during pay period worked—																								
		Number	Average full-time hours per pay period	Number	Average hours per pay period	Under 96 hrs.	Over 96 and under 104 hrs.	104 hrs.	Over 104 and under 108 hrs.	108 hrs.	Over 108 and under 112 hrs.	112 hrs.	Over 112 and under 116 hrs.	116 and under 120 hrs.	120 hrs.	Over 120 and under 124 hrs.	124 and under 126 hrs.	126 hrs.	Over 126 and under 130 hrs.	130 and under 134 hrs.	134 and under 138 hrs.	138 and under 142 hrs.	142 and under 146 hrs.	146 and under 150 hrs.	150 and under 154 hrs.	154 and under 158 hrs.	158 and under 162 hrs.	166 and under 172 hrs.	174 hrs. and over
MALES																														
Beater men:																														
Wisconsin and Minnesota	3	81	112.0	64	122.2	----	----	----	----	----	1	24	8	4	3	5	----	1	2	2	3	4	1	2	2	----	1	----	1
Machine tenders:																														
Wisconsin and Minnesota	3	31	112.0	29	122.5	----	----	----	----	----	----	2	8	6	2	3	1	----	3	----	1	1	----	----	----	----	2	----	----
Back tender:																														
Wisconsin and Minnesota	3	33	112.0	30	120.5	----	----	----	----	----	----	3	8	8	----	4	2	2	----	----	1	----	----	1	----	1	----	----	----
Third hands:																														
Wisconsin and Minnesota	3	32	112.0	26	119.5	----	----	----	1	----	----	1	4	8	2	6	1	----	1	2	----	----	----	----	----	----	----	----	----	----
Calender men:																														
Wisconsin and Minnesota	3	16	126.0	16	131.6	----	----	----	----	----	----	1	----	1	----	3	1	----	----	----	1	9	----	----	----	----	----	----	----	----
FEMALES																														
Sorters:																														
Wisconsin and Minnesota	3	54	124.9	38	124.3	----	----	----	----	----	----	----	2	5	----	5	----	13	13	----	----	----	----	----	----	----	----	----	----	----
Counters:																														
Wisconsin and Minnesota	2	23	126.0	20	125.7	----	----	----	----	----	----	----	----	----	----	1	2	16	1	----	----	----	----	----	----	----	----	----	----	----
Laborers:																														
Wisconsin and Minnesota	3	76	123.5	55	127.6	----	----	----	----	----	----	1	4	----	1	2	4	26	9	1	3	----	2	----	----	----	----	21	----

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION

PULP MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																				
						Number who during pay period earned—																		
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	$8 and under $10	$10 and under $12	$12 and under $14	$14 and under $16	$16 and under $18	$18 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and over
MALES																								
Grinder men:																								
New England	14	278	$26.62	220	$30.35	----	----	----	----	----	5	59	47	68	17	16	7	1	----	----	----	----	----	----
New York	17	360	25.05	276	29.29	----	----	----	----	----	3	89	75	67	21	15	6	----	----	----	----	----	----	----
Total	31	638	25.70	496	29.76	----	----	----	----	----	8	148	122	135	38	31	13	1	----	----	----	----	----	----
Acid makers:																								
New England	11	32	33.82	29	38.43	----	----	----	----	----	----	----	7	4	7	4	5	2	----	----	----	----	----	----
New York	12	29	34.39	27	36.48	----	----	----	----	----	----	----	6	7	5	4	3	2	----	----	----	----	----	----
Total	23	61	34.12	56	37.49	----	----	----	----	----	----	----	13	11	12	8	8	4	----	----	----	----	----	----
Cooks, sulphite:																								
New England	11	34	37.74	29	41.70	----	----	----	----	----	----	----	1	7	7	7	1	3	1	2	----	----	----	----
New York	12	32	37.92	32	38.52	----	----	----	----	----	----	----	----	10	9	9	3	1	----	----	----	----	----	----
Total	23	66	37.81	61	40.03	----	----	----	----	----	----	----	1	17	16	16	4	4	1	2	----	----	----	----
Cooks, sulphate:																								
New England	3	9	32.45	7	30.95	----	----	----	----	----	----	----	----	7	----	----	----	----	----	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	2	4	31.90	4	33.64	----	----	----	----	----	----	----	2	1	----	1	----	----	----	----	----	----	----	----
Louisiana	3	7	29.18	5	31.24	----	----	----	----	----	----	2	----	1	1	1	----	----	----	----	----	----	----	----
Total	8	20	30.99	16	31.71	----	----	----	----	----	----	2	2	9	1	2	----	----	----	----	----	----	----	----

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

PULP MILLS—Continued

ONE-WEEK PAY PERIOD—Concluded

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																			
						Number who during pay period earned—																	
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	$8 and under $10	$10 and under $12	$12 and under $14	$14 and under $16	$16 and under $18	$18 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and over
MALES—concluded																							
Blow pit men:																							
New England	11	49	24.99	39	28.58	----	----	----	----	----	----	16	11	4	5	3	----	----	----	----	----	----	----
New York	12	38	25.00	33	26.53	----	----	----	----	1	----	13	10	7	2	----	----	----	----	----	----	----	----
Total	23	87	25.00	72	27.64	----	----	----	----	1	----	29	21	11	7	3	----	----	----	----	----	----	----
Diffuser men:																							
New England	3	9	30.37	6	30.98	----	----	----	----	----	----	----	3	2	1	----	----	----	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	2	6	29.74	6	32.98	----	----	----	----	----	----	----	2	2	2	----	----	----	----	----	----	----	----
Louisiana	3	7	24.99	5	29.86	----	----	----	----	----	----	1	1	2	1	----	----	----	----	----	----	----	----
Total	8	22	28.26	17	31.35	----	----	----	----	----	----	1	6	6	4	----	----	----	----	----	----	----	----
Evaporator men:																							
New England	3	9	27.58	9	30.42	----	----	----	----	----	----	3	1	3	2	----	----	----	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	2	4	31.10	4	33.27	----	----	----	----	----	----	----	1	2	1	----	----	----	----	----	----	----	----
Louisiana	3	7	25.11	6	27.56	----	----	----	----	----	----	3	1	1	1	----	----	----	----	----	----	----	----
Total	8	20	27.46	19	30.11	----	----	----	----	----	----	6	3	6	4	----	----	----	----	----	----	----	----

Caustic men:																								
New England	3	9	30.98	9	33.42								4	1	3	1								
Pennsylvania, Maryland, and Virginia	2	6	27.43	6	29.37							1	3	1	1									
Louisiana	3	9	26.43	9	29.19						1	1	4	1	2									
Total	8	24	28.37	24	30.82						1	2	11	3	6	1								
Laborers:																								
New England	22	1,199	22.41	885	24.75				3	9	129	379	245	79	26	10	5							
New York	20	1,151	22.20	813	24.47					16	140	381	162	75	21	14	3		1					
Pennsylvania, Maryland, and Virginia	3	142	24.74	99	25.56			7	8	14	3	11	16	27	13									
Louisiana	3	42	14.26	28	14.69	3	1	9	4	5	5	1												
Total	48	2,534	22.34	1,825	24.51	3	1	16	15	44	277	772	423	181	60	24	8		1					
FEMALES																								
Rag sorters:																								
New England	8	257	16.90	121	16.77		3	11	16	56	34	1												
Michigan and Ohio	4	43	17.38	34	17.87		1	6	4	11	2	6	4											
Total	12	300	16.98	155	17.01		4	17	20	67	36	7	4											

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

PULP MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation		Number who during pay period earned—																								
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	Under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and under $85	$85 and under $90	$90 and under $95	$95 and under $100	$100 and under $105	$105 and under $110	$110 and under $115	$115 and under $120	$120 and under $125	$125 and under $130	$130 and under $135	$135 and under $140	$140 and under $150	$150 and over
MALES																														
Grinder men:																														
Michigan and Ohio	3	51	$56.12	19	$57.77	----	----	----	----	----	7	4	6	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	11	150	58.86	79	62.78	----	----	----	3	----	9	9	27	20	7	1	1	2	----	----	----	----	----	----	----	----	----	----	----	----
Pacific coast	5	215	59.51	66	64.84	----	----	----	----	----	6	14	8	29	2	5	1	----	----	1	----	----	----	----	----	----	----	----	----	----
Total	19	416	58.79	164	63.03	----	----	----	3	----	22	27	41	51	9	6	2	2	----	1	----	----	----	----	----	----	----	----	----	----
Acid makers:																														
Pennsylvania, Maryland, and Virginia	5	12	80.10	11	87.03	----	----	----	----	----	----	----	----	3	1	----	2	----	----	1	1	2	1	----	----	----	----	----	----	----
Michigan and Ohio	5	13	83.10	11	84.94	----	----	----	----	----	----	----	----	1	2	1	1	3	----	3	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	9	27	66.95	25	72.80	----	----	----	----	3	----	1	1	4	6	4	2	2	1	----	1	----	----	----	----	----	----	----	----	----
Pacific coast	5	15	68.77	12	71.37	----	----	----	----	----	----	1	3	3	1	1	1	2	----	----	----	----	----	----	----	----	----	----	----	----
Total	24	67	72.72	59	77.43	----	----	----	----	3	----	2	4	11	10	6	6	7	1	4	2	2	1	----	----	----	----	----	----	----

Cooks, sulphite:																													
Pennsylvania, Maryland, and Virginia	5	16	109.01	15	111.07											2	1	2	1			1	2		1	1	1	1	1	1
Michigan and Ohio	5	13	86.26	12	83.86									1		3	4		2	2									
Wisconsin and Minnesota	9	28	79.25	23	91.46								2	3	2		2		6	1	1	2	2			1				1
Pacific coast	5	16	74.29	13	81.27									1	3	2	4	1		1		1							
Total	24	73	86.04	63	92.58								2	5	5	7	11	3	9	4	1	4	4		1	2	1	1	1	2
Cooks, sulphate:																													
Wisconsin and Minnesota	4	12	70.22	9	79.89								1		1	3	3					1							
Blow pit men:																													
Pennsylvania, Maryland, and Virginia	5	18	64.07	14	70.33				3			2	1		2	2			2	2									
Michigan and Ohio	4	14	54.59	14	55.73					6	4	1		1	1		1												
Wisconsin and Minnesota	9	35	50.73	27	55.34				1	6	6	8	4	2															
Pacific coast	5	21	51.74	16	59.19						3	9	1	2		1													
Total	23	88	54.31	71	59.24				4	12	13	20	6	5	3	3	1		2	2									
Diffuser men:																													
Wisconsin and Minnesota	5	15	57.88	12	75.69							1	1	3		3	1	2			1								
Evaporator men:																													
Wisconsin and Minnesota	4	12	57.46	11	64.89						2	2	3		1	2	1												
Caustic men:																													
Wisconsin and Minnesota	4	10	60.28	9	70.80							1	1	2	3		2												
Laborers:																													
Pennsylvania, Maryland, and Virginia	4	189	48.31	84	55.03			1	15	20	14	15	7	1	2	4	3	1		1									
Michigan and Ohio	8	378	53.31	167	59.58				14	12	28	38	33	19	8	6	7	2											
Wisconsin and Minnesota	16	1,513	50.35	680	52.64		5	13	71	161	217	99	68	30	11	2	2	1											
Pacific coast	5	579	52.91	193	54.42				6	40	72	36	23	10	3	2		1											
Total	33	2,659	51.04	1,124	54.16		5	14	106	233	331	188	131	60	24	14	12	5		1									
FEMALES																													
Rag sorters:																													
Wisconsin and Minnesota	3	126	34.07	63	34.28	5	24	24	9	1																			

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

BOOK-PAPER MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																				
						Number who during pay period earned—																		
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	$8 and under $10	$10 and under $12	$12 and under $14	$14 and under $16	$16 and under $18	$18 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and over
MALES																								
Beater men:																								
New England	8	298	$24.24	263	$25.63	----	----	----	2	----	----	183	43	26	5	1	3	----	----	----	----	----	----	----
New York	6	136	25.16	120	27.86	----	----	----	----	----	7	55	14	20	21	2	1	----	----	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	2	24	24.50	23	25.57	----	----	----	----	----	----	12	9	2	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	5	120	24.65	107	25.64	----	----	----	----	----	----	65	35	5	2	----	----	----	----	----	----	----	----	----
Total	21	578	24.49	513	26.15	----	----	----	2	----	7	315	101	53	28	3	4	----	----	----	----	----	----	----
Machine tenders:																								
New England	8	146	39.98	137	43.00	----	----	----	----	----	----	----	----	7	52	33	23	14	5	1	1	1	----	----
New York	6	66	42.00	59	44.40	----	----	----	----	----	----	----	----	3	10	21	16	8	1	----	----	----	----	----
Pennsylvania, Maryland, and Virginia	2	13	36.31	12	36.02	----	----	----	----	----	----	----	1	4	5	2	----	----	----	----	----	----	----	----
Michigan and Ohio	5	61	39.60	59	41.13	----	----	----	----	----	----	----	----	3	31	10	7	5	1	2	----	----	----	----
Total	21	286	40.28	267	42.58	----	----	----	----	----	----	----	1	17	98	66	46	27	7	3	1	1	----	----
Back tenders:																								
New England	8	149	28.85	144	31.28	----	----	----	----	----	----	3	69	46	15	10	----	----	1	----	----	----	----	----
New York	6	66	32.26	60	34.36	----	----	----	----	----	----	11	2	15	21	8	3	----	----	----	----	----	----	----

Pennsylvania, Maryland, and Virginia	2	13	28.53	12	29.39							4	3	3	1	1							
Michigan and Ohio	5	63	29.62	61	30.80								29	24	7		1						
Total	21	291	29.82	277	31.76							18	103	88	44	19	4		1				
Th rd hands:																							
New England	7	118	25.49	95	28.44							26	43	15	6	3	2						
New York	6	66	27.98	59	29.41							10	17	28	3	1							
Pennsylvania, Maryland, and Virginia	2	11	25.81	10	25.40							7	2		1								
Michigan and Ohio	5	60	25.60	51	27.87							24	15	9	2		1						
Total	20	255	26.17	215	28.43							67	77	52	12	4	3						
Calender men:																							
New England	5	135	31.36	124	32.97							2	22	69	23	5	1	1	1				
New York	4	55	29.66	50	32.21								23	9	10	6	1		1				
Michigan and Ohio	4	54	27.98	52	28.99								42	8	2								
Total	13	244	30.22	226	31.88							2	87	86	35	11	2	1	2				
Laborers:																							
New England	8	362	24.21	313	25.15				1		5	185	87	30	3	2							
New York	6	237	24.27	179	25.28				1		9	95	51	20	3								
Pennsylvania, Maryland, and Virginia	2	48	19.13	37	19.04				6	10	8	11	2										
Michigan and Ohio	5	144	21.02	124	21.18						57	51	16										
Total	21	791	23.37	653	24.08				8	10	79	342	156	50	6	2							
FEMALES																							
Sorters:																							
New England	6	303	17.57	266	17.45			6	58	130	30	37	5										
New York	2	3	19.06	3	19.17				1			2											
Michigan and Ohio	2	9	15.75	9	15.75				7		2												
Total	10	315	17.54	278	17.41			6	66	130	32	39	5										
Counters:																							
New England	5	42	19.74	38	19.61					7	18	12		1									
New York	4	43	18.58	34	18.35				5	11	11	7											
Michigan and Ohio	4	99	15.76	84	15.86			9	7	64	4												
Total	13	184	17.34	156	17.31			9	12	82	33	19		1									

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

BOOK-PAPER MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																												
						Number who during pay period earned—																												
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	Under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and under $85	$85 and under $90	$90 and under $95	$95 and under $100	$100 and under $105	$105 and under $110	$110 and under $115	$115 and under $120	$120 and under $125	$125 and under $130	$130 and under $135	$135 and under $140	$140 and under $150	$150 and over
MALES																																
Beater men:																																
Pennsylvania, Maryland, and Virginia	9	244	$54.50	166	$58.59	----	----	----	2	26	59	24	19	6	18	2	1	----	9	----	----	----	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	2	131	47.14	96	49.91	----	----	----	2	50	37	5	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	52	50.96	29	49.55	----	----	1	9	4	10	4	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	13	427	51.87	291	54.82	----	----	1	13	80	106	33	22	6	18	2	1	----	9	----	----	----	----	----	----	----	----	----	----	----	----	----
Machine tenders:																																
Pennsylvania, Maryland, and Virginia	9	107	94.68	96	101.89	----	----	----	----	----	----	----	----	----	2	11	7	4	3	12	11	18	14	4	4	1	2	2	1	----	----	----
Michigan and Ohio	2	39	77.47	31	84.60	----	----	----	----	----	----	----	----	1	1	5	9	9	3	2	1	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	21	86.24	21	86.41	----	----	----	----	----	----	----	----	----	2	2	1	11	5	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	13	167	89.63	148	96.07	----	----	----	----	----	----	----	----	1	5	18	17	24	11	14	12	18	14	4	4	1	2	2	1	----	----	----
Back tenders:																																
Pennsylvania, Maryland, and Virginia	9	124	68.26	101	73.60	----	----	----	----	2	5	1	5	20	35	10	11	2	5	1	1	2	----	1	----	----	----	----	----	----	----	----
Michigan and Ohio	2	39	57.50	36	66.45	----	----	----	----	----	----	7	15	6	3	1	1	2	1	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	22	65.18	17	66.14	----	----	----	----	----	3	1	3	3	6	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	13	185	65.62	154	71.10	----	----	----	----	2	8	9	23	29	44	12	12	4	6	1	1	2	----	1	----	----	----	----	----	----	----	----

Third hands:																													
Pennsylvania, Maryland, and Virginia	8	94	54.84	65	60.91	----	3	----	----	1	19	17	3	6	8	5	----	3	----	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	2	40	45.02	32	48.70	----	----	----	6	14	9	2	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	20	53.65	16	55.12	----	----	----	1	1	4	8	1	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	12	154	52.15	113	56.64	----	3	----	7	16	32	27	5	7	8	5	----	3	----	----	----	----	----	----	----	----	----	----	----
Calender men:																													
Pennsylvania, Maryland, and Virginia	7	102	59.04	79	61.75	----	----	----	1	6	8	25	16	5	13	4	1	----	----	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	2	79	50.21	54	56.99	----	----	----	1	9	15	16	6	1	3	2	1	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	20	59.36	18	60.60	----	----	----	----	1	3	1	10	1	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	11	201	55.54	151	59.91	----	----	----	2	16	26	42	32	7	18	6	2	----	----	----	----	----	----	----	----	----	----	----	----
Laborers:																													
Pennsylvania, Maryland, and Virginia	9	208	51.79	127	54.24	----	----	----	17	24	34	33	8	2	2	2	2	2	1	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	2	128	44.52	106	47.62	----	1	11	31	32	13	11	6	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	78	49.85	49	50.22	----	----	----	1	28	17	3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	13	414	49.16	282	51.05	----	1	11	49	84	64	47	14	2	3	2	2	2	1	----	----	----	----	----	----	----	----	----	----
FEMALES																													
Sorters:																													
Pennsylvania, Maryland, and Virginia	5	88	33.08	59	32.51	34	12	2	3	3	3	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	2	160	27.78	125	27.59	121	3	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	7	248	29.68	184	29.17	155	15	3	3	3	3	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Counters:																													
Pennsylvania, Maryland, and Virginia	6	64	32.73	45	30.40	31	2	9	3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	2	32	32.42	30	31.76	13	10	7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	2	33	39.00	15	38.20	----	----	15	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	10	129	34.25	90	32.15	44	12	31	3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

NEWSPRINT MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation		Number who during pay period earned—																	
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	$8 and under $10	$10 and under $12	$12 and under $14	$14 and under $16	$16 and under $18	$18 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and over
MALES																							
Beater men:																							
New England	8	69	$23.91	59	$26.56	-----	-----	-----	-----	-----	-----	33	12	7	5	2	-----	-----	-----	-----	-----	-----	-----	-----
New York	11	158	21.84	129	23.76	-----	-----	-----	-----	-----	6	89	24	7	1	-----	1	-----	1	-----	-----	-----	-----	-----
Total	19	227	22.46	188	24.64	-----	-----	-----	-----	-----	6	122	36	14	6	2	1	-----	1	-----	-----	-----	-----	-----
Machine tenders:																							
New England	10	125	46.61	115	50.73	-----	-----	-----	-----	-----	-----	-----	-----	-----	8	34	20	24	8	7	9	4	-----	1
New York	14	142	45.84	131	48.48	-----	-----	-----	-----	-----	-----	-----	-----	1	9	30	45	28	13	2	1	1	1	-----
Total	24	267	46.22	246	49.53	-----	-----	-----	-----	-----	-----	-----	-----	1	17	64	65	52	21	9	10	5	1	1
Back tenders:																							
New England	10	127	37.10	115	40.17	-----	-----	-----	-----	-----	-----	-----	7	29	27	30	11	3	4	1	1	-----	1	1
New York	14	137	36.82	120	40.33	-----	-----	-----	-----	-----	-----	-----	3	23	41	27	18	3	3	1	1	-----	-----	-----
Total	24	264	36.96	235	40.25	-----	-----	-----	-----	-----	-----	-----	10	52	68	57	29	6	7	2	2	-----	1	1

Third hands:																								
New England	10	125	31.44	107	33.32								21	61	18	5	2							
New York	14	134	31.30	116	34.89							2	17	60	19	6	10	1	1					
Total	24	259	31.34	223	34.13							2	38	121	37	11	12	1	1					
Laborers:																								
New England	10	346	22.08	263	24.20	1		1		5	33	132	58	17	14	1	1							
New York	14	247	21.62	187	23.17						49	84	44	7	2		1							
Total	24	593	21.88	450	23.77	1		1		5	82	216	102	24	16	1	2							

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

NEWSPRINT MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation		Number who during pay period earned—																										
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	Under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and under $85	$85 and under $90	$90 and under $95	$95 and under $100	$100 and under $105	$105 and under $110	$110 and under $115	$115 and under $120	$120 and under $125	$125 and under $130	$130 and under $135	$135 and under $140	$140 and under $150	$150 and over
MALES																																
Beater men:																																
Michigan and Ohio	2	14	$44.82	12	$49.65				4	6				2																		
Wisconsin and Minnesota	8	78	49.29	63	51.97			1	9	15	20	7	7	4																		
Pacific coast	4	126	49.95	95	54.82					36	22	15	12	7	2	1																
Total	14	218	49.39	170	53.40			1	13	57	42	22	19	13	2	1																
Machine tenders:																																
Michigan and Ohio	2	9	124.70	9	127.46																			4	1	4						
Wisconsin and Minnesota	9	58	104.12	44	108.81											3	1	2	4	6	6	3	6	3	1	5		1	1		2	
Pacific coast	5	84	95.54	68	101.13										2	5	10	6	8	8	6	3	5	1	3	3	3	3	2			
Total	16	151	100.59	121	105.88										2	8	11	8	12	14	12	6	11	4	8	9	7	4	3	2		
Back tenders:																																
Michigan and Ohio	2	10	104.94	8	110.00																	5	2	1								
Wisconsin and Minnesota	9	60	85.23	43	91.15									6	5	4	2	4	4	7	1	4	1	2	2				1			
Pacific coast	5	85	76.27	68	80.05			1			1	1	12	11	6	9	9		4	3	3	1	3	2	1	1						
Total	16	155	81.62	119	86.07			1			1	1	12	17	11	13	11	4	8	10	4	10	6	5	3	1			1			

Third hands:																														
Michigan and Ohio	2	9	80.70	8	84.59											1	4	2		1										
Wisconsin and Minnesota	9	57	69.68	34	74.74						3	1	5	3	2	5	10	2	1		2									
Pacific coast	5	82	66.42	50	72.79						1	6	3	14	9	7	2	4		3	1									
Total	16	148	68.71	92	74.54						4	7	8	17	11	13	16	8	1	4	3									
Laborers:																														
Michigan and Ohio	2	17	46.59	7	50.98				2	1	1	3																		
Wisconsin and Minnesota	9	92	48.61	64	50.91			5	9	12	21	14	1	1		1														
Pacific coast	5	309	51.91	148	54.02				1	10	85	30	18	3	1															
Total	16	418	51.05	219	53.01			5	12	23	107	47	19	4	1	1														

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

WRAPPING-PAPER MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																				
						Number who during pay period earned—																		
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	$8 and under $10	$10 and under $12	$12 and under $14	$14 and under $16	$16 and under $18	$18 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and over
MALES																								
Beater men:																								
New England	5	153	$23.23	128	$24.83					1	1	86	27	6	6	1								
New York	4	38	21.99	28	24.71						3	14	9	2										
Michigan and Ohio	2	7	32.21	5	33.23									4	1									
Total	11	198	23.28	161	25.07					1	4	100	36	12	7	1								
Machine tenders:																								
New England	5	64	44.64	60	47.04										12	19	9	13	4	1	2			
New York	4	19	41.41	15	46.97									1	5	3	1	1	2	1		1		
Michigan and Ohio	2	14	40.91	14	43.46										1	10	2	1						
Total	11	97	43.48	89	46.46									1	18	32	12	15	6	2	2	1		
Back tenders:																								
New England	5	65	34.46	60	35.82							1	10	15	26	6	1	1						
New York	4	19	32.42	16	38.78							1	4	3	1		3	3		1				
Michigan and Ohio	2	13	32.40	12	34.84								2	2	7	1								
Total	11	97	33.73	88	36.23							2	16	20	34	7	4	4		1				

Third hands:																								
New England	5	63	29.33	47	30.85							5	20	13	7	2								
New York	4	20	27.01	18	28.32							6	7	4		1								
Michigan and Ohio	2	10	29.89	9	30.30							2	2	4	1									
Total	11	93	28.86	74	30.17							13	29	21	8	3								
Laborers:																								
New England	5	217	23.38	183	24.20					2	5	133	32	10	1									
New York	4	68	20.50	46	22.49					6	2	29	7	2										
Total	9	285	22.76	229	23.86					8	7	162	39	12	1									
FEMALES																								
Counters:																								
New York	3	13	15.34	13	14.90			4	6	2	1													
Michigan and Ohio	2	15	14.15	11	14.01		2	3	3	3														
Total	5	28	14.67	24	14.50		2		9	5	1													

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

WRAPPING-PAPER MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation		Number who during pay period earned—																								
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	Under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and under $85	$85 and under $90	$90 and under $95	$95 and under $100	$100 and under $105	$105 and under $110	$110 and under $115	$115 and under $120	$120 and under $125	$125 and under $130	$130 and under $135	$135 and under $140	$140 and under $150	$150 and over
MALES																														
Beater men:																														
Pennsylvania, Maryland, and Virginia	4	51	$60.69	32	$65.89	----	----	----	----	----	----	5	12	5	7	1	1	----	----	1	----	----	----	----	----	----	----	----	----	----
Michigan and Ohio	3	64	55.81	42	62.00	----	----	----	2	10	5	4	9	1	----	2	6	1	2	----	----	----	----	----	----	----	----	----	----	----
Wisconsin and Minnesota	6	97	50.11	85	53.32	----	----	----	3	18	49	9	2	3	----	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----
Total	13	212	54.42	159	58.14	----	----	----	5	28	54	18	23	9	7	3	8	1	2	1	----	----	----	----	----	----	----	----	----	----
Machine tenders:																														
Pennsylvania, Maryland, and Virginia	4	34	97.49	28	101.02	----	----	----	----	----	----	----	----	----	----	----	----	----	5	7	9	5	1	1	----	----	----	----	----	----
Michigan and Ohio	3	29	92.02	26	99.11	----	----	----	----	----	----	----	----	----	1	4	1	1	8	1	3	----	----	1	----	6	----	----	----	----
Wisconsin and Minnesota	6	74	92.93	66	101.62	----	----	----	----	----	----	----	----	----	8	1	9	5	8	11	6	7	3	3	1	1	----	1	----	2
Total	13	137	93.88	120	100.93	----	----	----	----	----	----	----	----	----	9	5	10	6	21	19	18	12	4	5	1	7	----	1	----	2

Back tenders:																														
Pennsylvania, Maryland, and Virginia	4	34	77.14	25	84.02								1	1	3	6	3	3	5	1	1	1								
Michigan and Ohio	3	34	74.13	26	79.91							1	2	4	5	5	1	1	1	2	2	2								
Wisconsin and Minnesota	6	70	67.44	56	70.33					5	3	7	6	4	9	9	9	2				1	1							
Total	13	138	71.44	107	75.86					5	3	8	9	9	17	20	13	6	6	3	4	4								
Third hands:																														
Pennsylvania, Maryland, and Virginia	4	33	64.17	26	70.68							1	7	8	3	4	1	2												
Michigan and Ohio	3	25	64.28	16	67.26							4	3	6	1		1	1												
Wisconsin and Minnesota	6	71	56.40	55	60.82				6	3	11	2	13	9	3	4	4													
Total	13	129	59.89	97	64.52				6	3	11	7	23	23	7	8	6	3												
Calender men:																														
Wisconsin and Minnesota	2	5	72.21	4	76.91								1				3													
Laborers:																														
Pennsylvania, Maryland, and Virginia	4	90	50.01	47	53.27		1	3	4	12	10	8	2	1	5		1													
Michigan and Ohio	4	79	55.93	54	55.88	1		1	1	7	9	15	15	4	1															
Wisconsin and Minnesota	6	180	49.73	117	52.52			2	11	43	32	13	7	5	1	1	1	1												
Total	14	349	51.21	218	53.51	1	1	6	16	62	51	36	24	10	7	1	2	1												
FEMALES																														
Counters:																														
Pennsylvania, Maryland, and Virginia	3	23	38.10	9	37.03		4	2	3																					
Wisconsin and Minnesota	3	14	36.53	13	36.55		8	1	4																					
Total	6	37	37.43	22	36.75		12	3	7																					

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Continued

WRITING-PAPER MILLS

ONE-WEEK PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation																				
						Number who during pay period earned—																		
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	$8 and under $10	$10 and under $12	$12 and under $14	$14 and under $16	$16 and under $18	$18 and under $20	$20 and under $25	$25 and under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and over
MALES																								
Beater men:																								
New England	8	136	$24.62	117	$26.32	-----	-----	-----	-----	-----	-----	56	40	12	7	2	-----	-----	-----	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	2	103	31.39	74	34.11	-----	-----	-----	-----	-----	-----	-----	10	28	34	-----	1	-----	1	-----	-----	-----	-----	-----
Michigan and Ohio	7	116	23.90	96	24.71	-----	-----	-----	-----	-----	2	49	43	2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Total	17	355	26.36	287	27.79	-----	-----	-----	-----	-----	2	105	93	42	41	2	1	-----	1	-----	-----	-----	-----	-----
Machine tenders:																								
New England	8	67	43.73	61	49.37	-----	-----	-----	-----	-----	-----	-----	-----	-----	14	6	14	9	11	4	2	-----	1	-----
Pennsylvania, Maryland, and Virginia	2	30	61.10	28	67.26	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2	5	3	6	2	-----	-----	-----	10
Michigan and Ohio	7	40	39.74	39	43.20	-----	-----	-----	-----	-----	-----	-----	-----	-----	9	19	9	2	-----	-----	-----	-----	-----	-----
Total	17	137	46.36	128	51.41	-----	-----	-----	-----	-----	-----	-----	-----	-----	23	27	28	14	17	6	2	-----	1	10
Back tenders:																								
New England	8	68	30.19	58	34.54	-----	-----	-----	-----	-----	-----	1	16	16	12	13	-----	-----	-----	-----	-----	-----	-----	-----
Pennsylvania, Maryland, and Virginia	2	32	44.81	30	49.79	-----	-----	-----	-----	-----	-----	-----	-----	5	11	2	1	-----	-----	-----	4	7	-----	-----
Michigan and Ohio	7	40	30.34	35	33.28	-----	-----	-----	-----	-----	-----	-----	7	19	7	2	-----	-----	-----	-----	-----	-----	-----	-----
Total	17	140	33.58	123	37.90	-----	-----	-----	-----	-----	-----	1	23	40	30	17	1	-----	-----	-----	4	7	-----	-----

Third hands:																								
New England	8	50	25.01	38	28.52							12	12	10	3	1								
Pennsylvania, Maryland, and Virginia	2	30	30.91	21	35.05							1	10	1		3	6							
Michigan and Ohio	7	40	25.63	36	28.29							7	19	7	3									
Total	17	120	26.70	95	29.88							20	41	18	6	4	6							
Calender men:																								
New England	5	30	28.98	26	32.13								13	5	3	5								
Pennsylvania, Maryland, and Virginia	2	21	28.88	10	33.35							1	4	2	1	1		1						
Michigan and Ohio	6	23	30.04	20	30.84								11	4	2	3								
Total	13	74	29.31	56	31.89							1	28	11	6	9		1						
Laborers:																								
New England	8	130	21.80	90	23.56						13	52	19	3		2	1							
Pennsylvania, Maryland, and Virginia	2	85	26.02	62	27.57							10	40	8	4									
Michigan and Ohio	7	105	21.98	92	22.68						5	72	14	1										
Total	17	320	22.98	244	24.25						18	134	73	12	4	2	1							
FEMALES																								
Sorters:																								
New England	7	74	20.12	51	20.59				6	10	12	13	8	2										
Michigan and Ohio	4	32	26.67	23	26.99					3	2	1	9	7		1								
Total	11	106	21.97	74	22.58				6	13	14	14	17	9		1								
Counters:																								
New England	6	21	19.52	13	18.47					4	8		1											
Pennsylvania, Maryland, and Virginia	2	103	20.84	74	18.47			2	22	25	9	8	8											
Michigan and Ohio	6	66	16.15	53	15.69			14	5	29	1	4												
Total	14	190	18.98	140	17.42			16	27	58	18	12	9											

TABLE E.—AVERAGE AND CLASSIFIED EARNINGS OF EMPLOYEES IN SELECTED OCCUPATIONS WHO WORKED ON AS MANY DAYS AS THERE WAS WORK IN THE OCCUPATION DURING THE PAY PERIOD, 1923, BY OCCUPATION, SEX, AND REGION—Concluded

WRITING-PAPER MILLS—Concluded

TWO-WEEK OR HALF-MONTH PAY PERIOD

Occupation, sex, and region	Number of establishments	All employees		Employees working on all days of operation		Number who during pay period earned—																								
		Number	Average full-time earnings per pay period	Number	Average earnings per pay period	Under $30	$30 and under $35	$35 and under $40	$40 and under $45	$45 and under $50	$50 and under $55	$55 and under $60	$60 and under $65	$65 and under $70	$70 and under $75	$75 and under $80	$80 and under $85	$85 and under $90	$90 and under $95	$95 and under $100	$100 and under $105	$105 and under $110	$110 and under $115	$115 and under $120	$120 and under $125	$125 and under $130	$130 and under $135	$135 and under $140	$140 and under $150	$150 and over
MALES.																														
Beater men:																														
Wisconsin and Minnesota	3	81	$50.40	64	$55.17	----	----	----	----	25	14	9	10	4	1	----	1	----	----	----	----	----	----	----	----	----	----	----	----	----
Machine tenders:																														
Wisconsin and Minnesota	3	31	81.76	29	89.56	----	----	----	----	----	----	----	----	----	----	----	12	7	5	2	1	----	----	2	----	----	----	----	----	----
Back tenders:																														
Wisconsin and Minnesota	3	33	54.77	30	59.00	----	----	----	----	----	5	16	6	1	----	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Third hands:																														
Wisconsin and Minnesota	3	32	47.38	26	50.63	----	----	----	2	10	10	4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Calender men:																														
Wisconsin and Minnesota	3	16	62.50	16	65.19	----	----	----	----	----	----	----	12	1	2	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Laborers:																														
Wisconsin and Minnesota	3	76	49.40	55	50.92	----	----	----	----	39	11	2	1	----	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
FEMALES																														
Sorters:																														
Wisconsin and Minnesota	3	54	35.22	38	35.14	----	12	26	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Counters:																														
Wisconsin and Minnesota	2	23	39.06	20	38.97	----	----	20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

DESCRIPTION OF OPERATIONS AND EQUIPMENT

PULP MANUFACTURE

By far the largest part of the pulp used in the manufacture of paper in the United States is made from the fiber of wood. To obtain this fiber or cellulose the wood must be disintegrated and the fiber delivered to the paper-making department as pure and strong as possible. When the disintegration of the wood is accomplished by a mechanical process the result is a "mechanical" or "ground-wood" pulp. Chemical agents, however, make it possible not only to disintegrate the wood with less injury to the fibers but also to separate from the fibers which form the casing or walls in the structure of the wood the various glutinous, resinous, and other intercellular matter. The pulp obtained from a given species of wood varies considerably with the chemical solvent used, so that the chemical pulps are classified, on the basis of the process used, into groups, the principal of which are the "sulphite," the "sulphate," and the "soda" pulps. The present study was confined to the ground-wood pulp and to the chemical pulps produced by the sulphite and sulphate processes. The reuse of fibers already manufactured in the form of rags is very general in the production of fine grades of paper, while waste paper is used in some grades of book paper, and the reduction of these fibers to pulp has also been included in the bureau's survey.

While water transportation is without doubt the easiest and cheapest method of conveying pulp wood, the location of the plants makes rail shipment a necessity in most instances. In either case the wood received is stacked for storage by mechanical means, very generally by the use of a large boom, mounted on a truck running on rails, and along which a traveling chain carries the wood which is fed to it from the boat or car to the tip of the stacker over the storage pile and drops it there. From this point various forms of chain conveyors—usually a button type cable in a V-shaped trough—are used to convey the desired supply to the wood room. In some places the wood is floated along in sluiceways, at least from its entry into the wood room as far as the barking drums.

If not already cut to a specified length when received, the logs must be sawed into suitable lengths for the machinery of the mill. This may be done before storage or as the logs come into the wood room, by passing them over a table upon which circular saws are mounted, spaced so that they will cut the wood into lengths suitable for future handling in the chippers of the chemical plants or the grinders of the ground-wood mill.

Very much of the wood used for paper manufacture is peeled of its bark before it comes to the mill. This is especially true of the grades used for the manufacture of the soda pulp used in book-paper plants. For the grades used in the manufacture of ground-wood and sulphite pulps, this is not so generally true, about half of the spruce, balsam, fir, and hemlock consumed in the United States coming to the mills as rough wood. This supply of unpeeled wood must be freed of its bark, which may be accomplished by passing it through a large horizontal cylinder or drum fitted with longitudinal stay pieces attached to the inner surface. The logs in the drum are

forced to rub against one another by means of a revolving motion given to the drum and the retarding force of the stay pieces, while streams of water are played continually upon the mass of logs. The water-soaked bark is removed by friction, and the logs work themselves out of the other end of the drum to continue their way along a chain conveyor. A variant of this method of barking is to use a tumbler without the stay pieces just described, so that the wood is cleaned and the bark somewhat softened passing through the drum, the bark then being removed by picking up the logs individually and holding them against a rapidly revolving disk in such a way that steel knives, projecting slightly from the surface of the disk, shave off the bark in a cleaner, though in a somewhat more wasteful fashion than in the previous method. In some mills the logs are barked directly on the disks without previously passing through the tumbler.

Logs which are too large in diameter or which contain large knots are removed from the conveyor and placed under a splitting machine which sinks a thick steel knife into them under the force of steam pressure and splits them apart. Knots and other defective portions may be removed by hand axes and the wood, now completely "rossed," is ready for reduction to pulp by one of the various processes.

In about one-half of the pulp mills in the United States at least two of the processes of manufacture will be found, the plants making ground-wood and soda pulps also manufacturing the sulphite, which is mixed in to strengthen the product. Up to this point, then, the steps in manufacture may be regarded as common to all wood-pulp mills. From this point on the mechanical and chemical processes are essentially different until the pulp is ready for screening and pressing into laps, when the different processes again converge.

MECHANICAL PULP

Wood intended for the ground-wood process comes from the wood room in blocks usually 2 feet in length, although some of the later types of grinding machines may take a larger block. These blocks are carried to the grinder room on conveyors or trucks and piled there, generally in racks so that their measure may be taken. The grinding machine consists of a large round grindstone, some 4 to 6 feet in diameter and as wide as is necessary to accommodate the length of the wood to be ground, set up in a steel casing with several projecting feed boxes so designed that the blocks may be placed in an opening in the side of the feed box and forced against the face of the stone by hydraulic pressure plungers. A stream of water plays upon the stone during the operation to prevent the heat generated by the friction from glazing the stone or burning the stock lifeless and short. The stone itself is driven by water power or, in some mills, electrically, several grinders being operated by the same power unit. The grinders are large consumers of power, a three-pocket grinder in older installations being driven by from 300 to 400 horsepower, while the tendency lately has been to increase this power to from 450 to 600 horsepower. For this reason plant operation in these mills depends directly upon the power supply available, and the number of grinders in operation varies a

great deal with the season and even differs with different parts of the day. As a usual thing the process is carried on throughout the 24 hours and on seven days in the week, with as many units in operation as the power supply permits.

The pulpy mass to which the wood is reduced by the friction of the stone is allowed to fall into small troughs underneath the base of the grinders and is then slushed along with water to the "bull" or "sliver" screens. Here the pulp passes through inclined screens which have a large area. The slivers are left on the surface and are raked away by chain-operated scrapers; additional labor is sometimes employed to keep these screen surfaces clean, but in other plants only occasional attention is given to them.

CHEMICAL PULP

In the chemical process the intercellular substances in the wood are cooked away and the fibers obtained in a free state as the result of the action of chemical solutions in which the wood is cooked at high temperature and under pressure. Before leaving the wood room the wood for chemical pulp is cut up into small chips by means of a powerful machine called a chipper. This is a massive iron disk rotating rapidly in a vertical position and carrying on its surface steel knives similar to those used on the barker, except that the knives themselves are stronger and are placed closer to the center in order to minimize the strain on the machine. The logs are fed endwise into a short iron tube, which forms part of the casing about the machine and which is inclined at an angle of 45 degrees to the surface of the disk, so that the wood is brought into contact with the knives at that angle and chipped into flakes by much the same action as that of whittling a stick.

The flakes which are discharged from the chippers are passed through chutes or other form of conveyor to the chip screens, where the sawdust is screened out. In the sulphite process not only is care taken to screen out the sawdust, but the screens, which may be of cylindrical or of flat type with two sizes of mesh, are arranged so that the chips pass over a fine screen through which all sawdust and particles smaller than the standard chips may drop, while the chips pass along to the larger mesh where they pass through the screen, leaving behind slivers and chips which are too large and must be returned to a rechipper or crusher. After passing through this screen the chips are carried along on a belt conveyor to large hoppers erected over the cooking boilers and designed to discharge directly into them.

SULPHITE PROCESS

In the "sulphite" process the liquor used for cooking is a bisulphite of lime or bisulphites of lime and magnesia; that is, it is a combination of sulphurous acid with a lime or a lime and magnesia base. The acid-making plant is an integral part of all sulphite mills. Sulphur, which is stored at the plant for the purpose, is fired by hand or fed through a hopper to small furnaces, the operator regulating the air supply by dampers to allow an adequate supply of air to maintain combustion and at the same time to prevent too much air entering the chamber, which would form sulphuric acid, an undesirable element in

the cooking liquor. The gas which is given off—sulphur dioxide—leaves through a pipe in the back or top of the furnace, and is run through a series of pipes laid horizontally and submerged in water or stood vertically and sprayed with water dripping along its sides. By this means the gas is cooled rapidly enough to prevent sulphuric acid forming at this stage and is then passed along to the towers. These towers usually rise above the rest of the mill and are constructed of reinforced concrete lined with acid-resisting tile. The towers are filled with lumps of limestone, and water is then admitted at the top of the tower; the gas enters at the bottom and is absorbed by the water and lime, producing the bisulphite liquor. In actual practice towers are generally used in pairs and the process may be varied by the use of other chemicals than those just described, pyrites being often burned instead of sulphur, and milk of lime systems are also in use instead of the towers filled with limestone.

The cooking boiler, called a "digester," is a tall cylindrical vessel of steel-plate construction, about 15 feet in diameter and some 50 feet high, with a dome-shaped top and a conical bottom. It rises usually through two floors, one floor coming just where the cylindrical portion begins at the base and the other just about flush with the top of the digester. To prevent the acid eating into the shell the digester is lined with vitrified brick laid in a special cement, and this lining is frequently inspected for breaks which would allow the acid to attack the shell and the gas to exert back pressure enough to tear down the lining itself. Into this digester the chips are allowed to fall from the chip bin above until the digester is filled as completely as possible, when the liquor is then turned in. The top is then bolted on, temperature and pressure applied, the gases drawn off at times, and the "cook" in general regulated according to the particular method in vogue at the mill. As the moisture content and other elements vary with every loading of chips even of the same kind of wood, the cooking operation must be in charge of a capable and experienced man. Cooking is carried on continuously through at least six days of the week, so that the operations beginning with the manufacture of the acid are on a 24-hour basis. In the greater number of plants acid makers and cooks work one shift on Sunday, so that cooking may be carried on Sunday night and no delay be caused to subsequent operations on Monday mornings.

When the tests, taken from time to time, indicate that the cook is completed the pulp is blown from the digester through a blowpipe in the bottom to tanks or pits, each usually large enough to accommodate twice the capacity of the digester. These blow pits have a second or false bottom so that water may be used to wash out the cooking liquor and then be drained out through holes in this false bottom. After the acid has been washed out in this manner water from a high-pressure hose line is used to loosen the pulp enough to allow it to be pumped through a pipe in the bottom of the pit having various screening devices to the presses or deckers. When the paper, for which the sulphite pulp is made, must be of a clear and permanently white color, a bleaching system is an essential part of the pulp manufacture. The pulp is passed through a press, from which it is delivered in chunks to a belt conveyor and carried to large tanks, where it is subjected to the bleaching action of chlorine. In many mills the bleaching is done in machines resembling the beater engines of the

paper mill, and it is not unusual to find this process taking place just before the pulp is pumped to the beaters themselves. When sufficiently bleached the pulp is washed free of the chemicals again and passed through presses or to the draining tanks of the paper mill, according to the conditions surrounding production in the individual establishment.

SULPHATE PROCESS

The "sulphate" process, a variant of the older and more common soda process, has come into use in this country because by it some of the cheaper long fiber woods, notably tamarack and jack pine, may be economically made into pliable strong wrapping paper termed "kraft." The solution used in the cook by this process is sodium sulphide obtained by reducing sodium sulphate, from which the process derives its name. In the actual operation new liquor is not prepared for each cook, the solution used in one cook being reclaimed, restrengthened, and used in a subsequent cook. This is the chief contrast, as far as production method goes, between the sulphate and the sulphite plants. In the sulphite mill, with the exception of a very few plants, the liquor is allowed to flow away without any attempt at reclamation.

In the sulphate operation the digester, which needs no special lining as does the sulphite digester, is filled with chips, the liquor poured in, the cook carried on under pressure, and the pulp discharged into blow pits in the same general way as in the sulphite process. The washing which takes place in the sulphate mill, however, is a much more involved process, being carried on usually in a series of upright tanks known as diffusing tanks, although open tanks termed "wash pans" may also be used. The pulp is at first washed with waste liquor and in each of the succeeding washes with more and more dilute liquor, which in the diffuser system is pumped from each tank in the series until the content of the last tank, pure water, is reached. From this point the pulp is pumped along on its way through the screens to the presses or deckers. The content of the first of the washing tanks—the strongest concentration of liquor in the series—is then drawn off and the liquor in the rest of the system moved up, that from each tank being emptied into the one ahead of it and the last tank filled with water, so that the washing system is again ready to handle a discharge from the digester.

The strong liquor drawn from the first tank is passed first through an evaporating boiler, where the liquor is subjected to heat or to the combined effect of heat and vacuum to eliminate part of its moisture content and bring it to a concentration suitable for burning. From the evaporators the liquid runs through a small pipe to a rotary furnace. This furnace is in two sections, one a stationary fire box and the other a revolving cylinder, 8 to 9 feet in diameter and from 14 to 30 feet long, made of a steel-plate shell and lined with fire brick. The pipe from the evaporator discharges the liquid into that end of the rotating section which is farthest from the fire box, the liquid then becomes ignited and, as the cylinder rotates, slowly works its way toward the fire box, being allowed to drop into a trough between the revolving cylinder and the fire box itself.

After the organic matters have been burned out of the liquor in this way the latter appears in the form of a sludge of black ash. This black ash, mixed with sulphate of soda and when necessary with sawdust, is fired by hand into a smelting furnace and the fused alkali then passed to a dissolving tank where it is dissolved with the proper quantity of water or of weak liquor. It is next pumped to causticizing tanks and freshly burned lime added to it. The lime used is then removed and the liquor siphoned to tanks where it is brought to the proper concentration and held ready for use in subsequent cooking operations. Lime mud removed from the causticizing system is washed in water, which is afterward used as the weak liquor in the dissolving tanks already mentioned. In some mills the lime itself is recovered by a special process. As in sulphite-mills cooking, liquor recovery and succeeding operations are carried on on a 24-hour basis.

PULP SCREENING AND PRESSING

Pulp leaving the bull screens in the mechanical pulp mills, the blow pits in the sulphite, or the diffusers of the sulphate mills passes through a series of screens arranged to remove any coarse particles that may remain in it. The first of these screens is very often a cylinder mesh screen, with a wormed fin raised on its inner surface, revolving in a horizontal position. As the pulp is flowed into this cylinder its movement forward is retarded by the raised fin, and all pulp which is fine enough passes through the mesh which makes up the wall of the cylinder, while knots and coarser particles remain within the cylinder, working their way gradually along the wormer and out of the open end of the screen into a trough, in which they are washed away to be ground and made into screenings for lower grades of paper. The pulp is then slushed along and floated over a shallow wooden sluice about 18 inches deep, in the bottom of which plates about 8 inches high and about the same distance apart are raised vertically. The flow over this sluiceway is kept very slow so that heavy particles in the pulp may sink and be caught between the baffle plates below.

The pulp which passes over this "riffler" is piped to the press room, where another series of screens is encountered, of which two distinct types are in use. In one of these a screen composed of parallel metal plates forms the first bottom of a shallow wooden box, the second bottom of which is a diaphragm which may be rapidly vibrated up and down. As the stock is flowed onto the screen the finer fibers are sucked through by the action of the diaphragm beneath while the coarser stock remains on the screening. In the centrifugal type of machine the pulp is caught on a revolving plate and thrown by the centrifugal force against a screen, through which the good stock passes, while the rejected pulp is slushed away to the screenings chest. Streams of water play upon the screen during this operation, washing the stock and at the same time keeping the screen plates clean. None of these screening operations demands constant attention, with the exception of the flat diaphragm screens. These flat diaphragm screens are usually cleaned by hand but for the rest of the devices described nothing but casual care is required, the coarse cylinder screen being entirely automatic under ordinary conditions, the riffler being cleaned only at intervals and then on days when production is

not in progress, and the centrifugal screens being manipulated by controlling valves.

The stock, which has been slushed along through the screens with a large quantity of water, must now be rid of this water content and brought to a consistency suitable for handling in the beaters of the paper mill or for shipment. In most mills solid laps are made only when the stock is to be shipped to other localities or when it is found desirable to manufacture a surplus, this latter situation occurring very commonly in the ground-wood mills where an abundant water supply is utilized when available and pulp stored against those periods when water power is more scant. However, as the beaters of the paper mill require the stock in a slush form, pulp for immediate use is run through machines which merely thicken it and pass it along to the stock tanks. In these machines, called "deckers," the pulp, which is pumped into a vat, is sucked up against the meshed wire wall of a horizontal cylinder revolving in the vat and picked off this wire by a small felt or rubber covered couch roll. A doctor blade along this couch roll scrapes the stock off and allows it to fall into the stock chest below, where it is kept in constant agitation to maintain the consistency throughout the mass which is most desirable for its use in the paper mill.

When solid laps are wanted, the stock is pressed upon a felt which winds around the couch roll and carries the pulp to the other end of the machine, where the stock is gradually accumulated from the felt onto a revolving press roll. When the layer of pulp on the press roll becomes sufficiently thick, it is cut from end to end with a wooden pin, let drop onto a receiving table and folded into convenient lap shape. Some types of machine cut the stock into sheets automatically and leave to the press tender only the duty of removing and piling these laps. Practically all plants contain both deckers and presses, and stock is slushed or pressed in varying proportions at different times. As the deckers when operating require no individual attention, as do the lap-forming presses, the number of men employed in this department varies with the demand for deckered and lapped stock, so that at times a large number of pressmen may be required while at other times the oversight of a head pressman is all that conditions demand.

RAGS AND WASTE-PAPER CONVERSION

Rags and waste paper are worked over and used for paper making in a number of plants, the rags going principally into writing-paper and the waste paper into book-paper mills. Rags which are to be made into paper are first sorted by hand according to material and color, all buckles, pins, buttons, and other articles cut away, and the rags passed through a revolving duster in which they are well thrashed and the dust dropped through a screen bottom. The rags are then passed through a cutting machine, into which they are fed by a studded revolving drum, and cut between knives revolving on a cylinder and another knife set in the bedplate. The drum feed is movable and may be regulated by the operator to prevent the machine clogging. The rags are then put into a large horizontal boiler and cooked with milk of lime under pressure.

After cooking, the stock is washed in a machine called a "Hollander." This machine consists of a large oval tub about 24 feet long and 10

feet wide, through the middle of which a partition extends lengthwise to within 3 feet of the ends, forming two sluiceways. In the center of the machine, at right angles to the partition and over one of the sluiceways, a large cylinder several feet in diameter carrying on its surface a set of knives about 8 inches wide and half an inch thick, revolves so as to pass very close to a concave bedplate likewise equipped with knives set so that they are not exactly parallel with those on the surface of the roll. Over the other sluiceway is set an octagonal drum covered with a wire cloth, so that as it revolves and dips into the stock the dirty water may flow into it and be removed from the tub without allowing the fibers to escape. As clear water is constantly poured into the washer and a circulation of stock through the sluiceways maintained, the stock is at once washed and the fibers drawn out by the knives on the beater roll and the bedplate. During the washing, chemicals are usually added for bleaching and the washing continued until these are thoroughly removed. The stock is now ready for similar machines in the paper mill, known as "beaters," which do not, however, have the washing equipment.

Where waste paper is converted into pulp, it is first sorted according to grade, paper containing any proportion of ground wood separated very generally from the pure chemical stock, and some colored stock sorted out. It is then put through a defibering and deinking process, which varies considerably from mill to mill, after which the stock is washed in a machine somewhat similar to that described for rags and is then pumped away to be mixed with other stock in the beaters of the paper department.

Women are quite generally employed in sorting both rags and old paper, this being the only department in a pulp mill in which they are usually found. Opening, sorting, dusting, and cutting are on a one-shift basis in these departments, while cooking and washing are carried on 24 hours a day.

PAPER MAKING

In the large majority of plants in the United States both pulp and paper are manufactured at the same location. This arrangement obviates reshipment of stock from the pulp to the paper mill and eliminates handling charges, especially where it is found possible to use a large part of the pulp directly in slush form. Some mills draw a large part of their stock from storage or have it shipped to the plants, and in this case the laps into which it has been made are run through a shredder, water added, and the pulp reduced once more to a slush state. Sulphite pulp bought to use as a strengthener with ground-wood stock is usually received in laps soft enough to be shredded by the action of the beater knives themselves, in which case the laps are fed to the beaters by hand. The conditions which surround the manufacture naturally differ with different plants, locations, and products, and the method of handling stock, of course, must be governed by these conditions.

The beaters of the paper plant are usually of the Hollander type, the general features of which we have already described in connection with the process of washing rag stock. The beater proper, however, is not equipped with the cylinder which is used on a washer to remove

the waste water. These beaters, in numbers sufficient to supply the paper machines of the mill, some 10 or 12 in a medium-size establishment, are grouped in a room spoken of as the "beater room," which is usually under the direct supervision of a skilled employee known as a "beater engineer." Under his direction the valves controlling the discharge pipes from the stock chests or shredding equipment are opened and the beaters loaded with the slush stock to be used; what lap stock is required is unfolded and fed to the machine, sheet by sheet, so that it may be shredded by the knives of the beater and mixed with the other stock.

Where all the stock to be fed is in the solid state, the beater is at first partially filled with water, the waste water from the paper machine being reused to save the stock which is retained in it, and the laps are then fed to the machine as described above. In some places, where the speed of the knives is not high enough to enable them to catch hold and drag the laps through, it is customary for two men to work together on this operation, one throwing the unfolded lap into the machine while the other catches it on a long paddle and throws it under the beater knives. When the beating action is started the roll is let down gently so that the knives may pull apart the bundles of fibers and at the same time brush out the fibers themselves so that they will felt more readily when they come to the paper machine. The roll is then lowered and the knives allowed to cut the fibers to length. The regulation of this beating action, which usually extends over several hours, is watched carefully and the beater engineer feels the stock occasionally to judge how the beating has progressed. Stock which has not been brushed out sufficiently will be harsh and will not work properly into the paper sheet, while the length of the fibers must have careful attention so that the sheet may not be weakened and at the same time not become too grainy, the exact result most desirable depending on the particular grade of product which is being made.

The beaters also constitute the mixing vessels of the plant. The exact proportions which enter into any grade of paper are determined beforehand by experience, experiment, or specification, and the formula for the "furnish," as it is called, is turned over to the beater engineer. It is quite common to see a copy of this formula hanging on the side of each beater during the period in which any particular stock is being worked. Besides the pulp stock, of which different kinds and proportions are used, the furnish contains other materials, the most common of which are clay, size, alum, and color. The first of these, a clay called "china clay," is used as a filler, working its way between the fibers and improving the surface and finish of the paper, though large quantities naturally weaken the sheet. This clay, which is carefully prepared by the manufacturers to remove all impurities, is mixed with water at the mill, screened through a wire cloth, and generally piped to the beaters as required.

The better grades of book and writing paper are loaded with special loading materials. Because of the fact that paper is actually of a porous nature it is necessary to use a sizing material for most kinds of paper. This fills in the pores and prevents the ink and moisture from spreading on the sheets. The substance most commonly used to obtain this result is a resin size, which is made by dissolving

soda ash in heated water, stirring in finely powdered resin, and boiling, the whole being finally diluted to a strength desirable for actual use in the beaters. As a matter of practice, most of the mills purchase their size ready made, and have only to dilute it to the proper concentration at the mill. The amount of sizing which must be added to the beaters varies with almost every detail of paper manufacture, so that this item must be watched and adjusted continually. Newsprint requires no sizing to any extent, some plants using none, while others use a very small portion. Along with the size, aluminum sulphate—spoken of as "alum" in the paper trade—is used to set the size and stiffen the paper. Again it is necessary to watch the proportions closely, as too much alum makes the paper brittle and tends to bring on deterioration. Finally, coloring materials are added to bring the paper to a specified degree of whiteness or to dye it to another color, the use of dyes and matching of colors being one of the most difficult tasks of the beater room.

When the stock is sufficiently worked in the beaters, valves in the bottom of the machines are opened and it is allowed to run into the storage chests below. From these storage chests it is pumped through a refining engine, usually spoken of as a "Jordan," the most prevalent type in American mills. This machine consists of two conical shells, fitted into one another so that knives mounted on the outer surface of the one and bars on the inner surface of the other will pass each other with a very small clearance when the inner shell is rotated. This clearance may be adjusted by a screw which pushes the inner shell well up into the outer casing, and as the knives are set a little off parallel, the stock which passes in through the smaller end is subjected to a very fine shearing action before it is discharged from the other end to the stock chests of the paper machine. At the present time the tendency in large newsprint mills is to abandon the process of beating for that grade of paper. It has been found possible to make a satisfactory grade of newsprint by a mixing system, in which the stock is held in the slush state in which it leaves the deckers, is constantly agitated in the storage tanks, and is piped to huge mixing tanks, in which the proper proportions of ground wood and sulphite are mixed and the other ingredients added while the stock is kept in constant circulation by paddles or by some other arrangement. The agitation of the stock is continued in the storage tank until the stock is ready to be put through the Jordan, which is the only refining operation in this process. It is evident that this method of manufacture allows large quantities of material to be prepared with a minimum of time and labor cost.

The stock coming from the beater room is ready to be made into paper; that is, the fibers as they are floated along suspended in water are to be woven together, the water gradually removed, and the web which is formed dried into a sheet. All this is accomplished on large machines, one of which is sufficient to maintain the output of a small mill, and each of which constitutes an integral production unit in larger establishments which may have as many as 10 or 12 of these machines in operation. The machines used to produce the grades of paper covered in this study are known as "Fourdriniers," of which there are several distinct types in use, and although every machine is made to meet individual specifications, the general principles of all are alike.

The stock coming to the paper machines is run through a set of screens at the head of the machine, which may be of the flat diaphragm kind used in the pulp mill, or of a special rotary type in which the screen is of cylindrical form and is kept clean by a continuous spray of water. From the screens the stock passes through a set of flow boxes which distribute it evenly onto a shallow flexible tray called an apron, which in turn spreads it over the surface of a woven wire traveling away from the tray at the rate of several hundred feet a minute, the speed of the wire, as well as the flow of the stock, being regulated according to the quality of the paper to be made. This "wire" is actually a belt, approximately 100 inches wide, which runs from the "breast" roll, just back of the tray, forward for a distance of about 20 feet, supported on its way by a set of tube rolls, to the "couch" roll, at which point it turns back. The flow of stock from the tray onto the wire is controlled by a metal plate set across the machine at this point and coming within about an inch of the apron. The stock flowing down the apron is forced against this dam and in this way a head is built up at this point. The nearer the plate is brought to the tray the smaller is the discharge opening, the greater is the pressure, and the greater the speed at which the stock comes onto the wire, which is itself pitched at this point by the elevation of the breast roll. On some of the latest types of paper machines, however, the pitch or wire elevation has been discontinued. By controlling the height of the dam and thus the pressure behind it, it is possible for the machine "help" to bring the stock onto the wire at approximately its own rate of speed.

The stock as it is discharged onto the wire is more than 99 per cent water, which immediately begins to drain off through the mesh. This action is assisted by the insertion of suction boxes at various points underneath the wire. While the wire travels forward, a rapid horizontal shaking motion is imparted to it so that the fibers are woven together as they travel along. Deckel straps running along the sides of the wire prevent the fibers from being tossed off and at the same time jam them back so as to form a little thicker edge to the paper, which assists materially in taking up the tension which is necessary in running the sheet through the first rolls. At this stage it is important that the stock be uniform, and the fibers in no way frayed out so as to leave weak points in the web as it forms; that no slime or dirt be allowed to carry from the screens and gather on the wire and prevent paper from forming at these spots; that the rolls carrying the wire be in perfect alignment, and the pull of the suction boxes be uniform so that the wire may not sag; and the wire itself must be given careful attention in order that the paper may be formed evenly, especially as thin streaks make it almost impossible to lead the fragile sheet through the drying cylinders. Before leaving the wire a light rigid roll, known as a "dandy roll," presses on the top of the web to smooth it out and at the same time to press into it any desired watermark while the paper is still soft enough to take such an impression.

The "couch" roll to which the paper now comes is, in most of the newer machines, a suction roll upon which the paper is pressed by a small roll set on top and a little off center, so that the pressure against the bottom roll is at first gentle and then increased at the point at which the two rolls meet. The couch roll, as has already been said,

is the point at which the wire turns back and the sheet, somewhat dried out by the suction, is caught on a traveling felt which passes around a roll close under the couch roll, leaving only a small gap for the sheet to jump unsupported. The paper is then carried by the felt through a pair of large press rolls, one above the other, with weights attached by lever arms to the top roll, so that the water is squeezed out of the paper by the pressure between the rolls. The sheet is then picked up by a new felt and passed through another set of press rolls, there being usually three of these sets on the machine. Considerable care is necessary to keep these rolls and the felts clean so as to prevent stock gathering on them and destroying the smoothness of the surfaces.

The paper, which is now about 60 per cent moisture, passes from the press rolls to the steam dryers, where this moisture is entirely eliminated. When it is considered that the distance between the apron and the rolls is not more than 30 or 40 feet and that the sheet of paper is traveling over this distance and between the rolls at a speed which in some of our modern newsprint establishments runs as high as a thousand feet per minute, it is not hard to realize the rapidity of the operation and the accuracy with which adjustments must be made at this end of the paper machine. Many paper machines—practically all such machines running above 650 feet per minute or with a trim capacity of over 160 inches—are equipped with compressed-air devices which carry the paper from the wire to the first felt and then onto the driers, and also when it leaves the driers carry it onto the calender stack and from the calender stack to the reel.

The steam-drying apparatus is a string of cast-iron rolls or drums 4 or 5 feet in diameter and arranged in two rows staggered one above the other, over which runs a dry felt. These rolls are heated from within by steam piped into them for this purpose, so that the paper will be dried gradually as it passes over them. Practically all fast-running machines are equipped with an endless rope running in sheaves, generally termed a "rope back tender," extending the length of the drier section of the machine, which automatically carries the paper over the driers both when starting up and in case the paper breaks for any cause.

The paper leaving the press rolls is threaded through these dryers and held snugly against the polished surface of the rolls by the felt, which also acts as an absorber of the moisture in the paper. The maximum or efficiency speed of the paper machine is dependent upon the rate at which the paper may be dried, and it is evident that this drying can not be hastened beyond this constant maximum drying rate if the paper is not to be injured. Considerable care is required to keep the tension on the dryer felts approximately constant, as they necessarily expand and contract with the varying degree of moisture content which they absorb from the paper and in turn give up under the effect of the heat. Some slippage between the sheet and the dryer rolls, as well as through the press rolls, is of course inevitable, and this, together with such variable elements as the contraction and expansion of felts just mentioned, makes it impossible to operate a machine with a single speed control. In modern electrically driven machines the power is furnished to the machine through a large turbine generator located in the basement under the machine, with the power controlled from the paper-machine room.

The current from the generator is applied to the machine by motors designed to furnish power at a rate suitable to drive that section of the machine to which it is applied, the requirements of which vary roughly from 30 to 100 horsepower. In this way there are as many as nine speed controls to a single machine, and although the relation of all of these speeds in linear feet per minute is very intimate, this system permits of adjustments to take up sag in the sheet and to relieve tension where necessary throughout the operation.

From the drying cylinders the paper is led through a stack of chilled iron rolls known as "calenders," the number of these rolls depending upon the finish which the paper is to have. Steel blades are used along the rolls to keep them free from dirt, scabs of paper, etc., and at times the rolls themselves are scraped by the machine "help" to keep their surfaces smooth. On leaving the calenders the paper is wound on a reel and the roll so formed usually rewound onto another drum, during which winding small circular slitting knives trim the edges off even and cut the wide roll into rolls of smaller dimension. These rolls are then ready for the finishing process.

As it takes considerable time to put a Fourdrinier into operation and get paper running over a machine that has been "down," paper machines shut down usually only for week ends and a few holidays, running day and night at other periods. From the Fourdrinier on, however, the hours of operation are more or less optional with the management.

In the manufacture of fine grades of writing paper the finishing begins on the machine itself, with what is called an "animal" sizing. The size in this case is a solution of commercial glue and gelatin which is carried in a press placed at the end of the drying rolls of the paper machine. The paper, coming from the rolls dry, is run through the sizing fluid, passing under a roll which is partially submerged in the fluid and back over this roll, the excess fluid being squeezed out by a second roll placed on top of the first. The paper then passes over the table of a cutting machine where it is cut by a revolving blade into sheets and automatically deposited on the table of a truck, which is placed there to receive it and which, when loaded, is removed and taken to the drying loft.

In the loft the sheets of paper are taken up in bundles of 15 to 20 sheets or more and hung over horizontal bars. The temperature in the loft is maintained by artificial heating and the control of special ventilating arrangements so that the sheets of paper are dried out thoroughly but slowly. In this way the glue which has been applied to the paper saturates it and is dried in without becoming brittle, as no steam-heated roll comes in contact with the paper after the sizing fluid has been applied. While the finish of the paper dried in this fashion is distinctive, the tendency at present is to substitute a machine process for the slower and more expensive hand operation just described. Where this policy is adopted the paper is taken from the paper machine in rolls and run in this form over a special drying machine on which it passes slowly over a series of unheated rolls and the drying is completed by the dry air of the loft. This product is also referred to as "loft-dried" paper.

Some grades of book and magazine paper also receive a special treatment at this stage which is known as "coating," a process

which gives the paper a glossy finish and makes it more durable. The coating material itself consists of a mixture of one or more mineral compounds, with the addition of enough adhesive to bind it to the texture of the paper. Where paper is to be coated on one side only, it is carried through the coating machine on a rubber apron and the coating material applied by a revolving brush. A copper roller, turning at adjustable speed and set so as to be partially immersed in a small trough full of the coating liquid, feeds the brush much or little of the liquid according as the operator regulates the speed of the roller. The paper then passes under a set of flat agitating brushes which spread the coating evenly, the carrier apron serving as a backing during this operation. The paper from the coating machine is then caught on wooden bars which travel on a chain to a position parallel with the under surface of the sheet and carry it up an incline and along through a drying gallery, allowing the paper to sag by its own weight into loops or festoons. The air in this gallery is heated, dried, and conducted into the room through metal ducts, and its discharge over the surface of the paper is regulated so as to dry the paper evenly and overcome its tendency to dry more rapidly at the edges. In this way the temperature, humidity, and circulation in the room are under control.

At one time it was customary to pass paper which was to be coated on both sides through a machine such as that just described, partially dry the paper, and then bring it through the machine again to coat the reverse side. In this way there was always one side of the paper sufficiently dry to enable it to be carried by the sticks without marring the surface. More modern devices permit the two sides to be coated in a single operation, the carrier belt being dispensed with and the coating fluid run on the paper as it passes over a trough. The coating is then spread by passing the paper through a set of brushes which weave in and out, half of the brushes over the top and the other half on the bottom of the sheet, and arranged to move in opposite directions with a balanced motion that holds the paper properly stretched as it passes between them. As this paper, wet on both sides, leaves the machine it is passed over a "floater," which is a series of ducts and nozzles emitting jets of heated air which exert sufficient pressure to support the paper in mid-air and at the same time dry the under surface, so that it may be picked up and carried along by the sticks to complete the drying, just as in the single coating process. At the end of the drying gallery the paper is wound on a reeling machine, where considerable care is taken to keep the tension even at both ends of the roll, a precaution which prevents tearing when running the paper through succeeding presses.

Paper which is to have a high finish is put through a stack of rolls, every alternate one of which is of highly polished steel, while the others are made of cotton, paper, or other material pressed on an iron or steel core, turned, ground, and polished. There are about nine rolls in the calender stacks, which are often referred to as supercalenders to distinguish them from the calenders at the end of the Fourdrinier machine. The paper passes from the reel to the top roll of the calender and is threaded through the stack, each steel roll ironing it by pressure and frictional heat against the somewhat more elastic surface of the composition roll in a way that gives the paper a glossy surface, after which it is again reeled. Calenders are equipped

with an odd number of rolls so that paper may be fed and removed from the same side, and in some mills mirrors are placed on the wall behind the stack so that the operator at the front of the stack may time his movements with those of his helper at the other side as they thread the paper back and forth through the calender when starting a new roll of paper. This starting operation is performed with the rolls at slow speed, and as soon as the paper is running smooth the speed is increased to approximately 1,000 feet per minute. Paper which has been loft dried in sheets must be calendered in what are known as sheet calenders. The paper is fed to these machines sheet by sheet and carried through the rolls by traveling belts, acquiring the proper surface in the same way as on the other type of calenders.

Writing paper, a considerable part of the book and wrapping paper, and what newsprint paper is sold for use on cylinder presses, are cut into sheets at the mill. The rolls for this purpose are placed on the reels of a cutting machine, from which the paper is unwound and passes under a set of slitters which cut it to the proper width. The paper is then passed through a set of rolls so that the paper extends over an inclined table, the edge of which is a fixed knife blade. Knives attached to a drum revolving just over this table come in contact with the fixed blade at definite intervals, and cut the paper into sheets the size of which depends upon the number and position of the knives on the drum and the relation of the speed of the drum's revolution to the movement of the paper. These sheets are then passed to a table at the end of the machine, at which girls are stationed to "lay" the sheets evenly. For some grades of paper these girls are expected to pull out spoiled sheets, and count the number of sheets by "clips," three cuts of the knives making a quire where eight rolls are passing simultaneously through the knives, two cuts where there are 12 rolls, etc. In many places automatic "lay boys" are now installed, so that the sheets as they are received on the table are constantly jogged into position by agitating slats making up the sides of the table box and keeping the sheets together evenly while a count is made automatically of the number of clips coming off the machine.

Special grades of writing and book paper are finished in sheets by a process which is called "plating." The paper is prepared for the plating machine by being placed between sheets of cardboard or linen, a sheet of paper and a sheet of the cardboard being arranged alternately, with sheets of steel or zinc inserted at intervals, the exact nature and number of the layers depending upon the finish desired. These stacks are built up by girls and then fed automatically, or by an operator termed a "plater man," back and forth between the rolls of the plater machine, the finish being given to the paper in this way.

For many fine grades of paper hand sorting is still resorted to, in which case the sheets are removed from the cutting machine in piles and taken to a sorting table, where they are examined one by one and all bad or imperfect sheets removed. This hand sorting is usually performed by females, as is also the counting which usually follows. The counter girls catch the corner of the pile of sheets, jog it quickly into a position in which the leaves are separated, holding the paper with one hand and counting with the other with great rapidity. Before packing, these sheets are put onto the

table of a trimming machine, on which the pile is evened up against the wall of the table and a large knife passed with great force through the stack so as to cut off the uneven edges. Similar cutting machines are at times used to cut sheets into smaller sizes.

Packing, or "finishing" as it is usually called in the paper mill, may be said to be of two distinct types, one of which covers the preparation of paper for shipment in rolls and the other the bundling or casing of paper which has been cut into sheets. A roll of paper for finishing is laid on a wrapper stretched along on the floor of the finishing room, and the paper rolled up in it, care being taken to make the wrapper wide enough properly to overlap the ends. A header is put both inside and outside on each end and the roll then labeled and stenciled. There is considerable difference, in the actual work of handling the paper, between the preparation of large newsprint rolls, for instance, and the rolls of wrapping paper which are put up for counter use, the packing of which is usually referred to as "counter-roll finishing." When paper is cut into sheets, they are often packed and tied in bundles, large sheets being folded before wrapping, but the sheets may be packed in cases, protected by a paper lining inside the case. Small sheets such as those produced in the writing-paper mills, where an 8½ by 11 inch sheet is a standard size, are usually wrapped and sealed in small bundles by girls.

A great deal of broken paper accumulates at different stages of paper manufacture, especially in the finishing room and in the machine room when paper is being started or has broken on the Fourdrinier. This "broke" is picked up and fed to a pulper, where it is beaten by the lugs of the machine under pressure to a pulpy mass not too bulky to be stored, or it may be passed directly back to the beaters, separate machines, referred to in the mill as "broke beaters," usually being designated to handle this broke. In the modern mill, the water which drains from the pulp when passing over the Fourdrinier wire is piped back for reuse as "make-up" with the stock coming to the machine from the Jordans, is used again in the beaters, and any excess is run through some kind of a "save all" device in which the fibers are allowed to settle and so are recovered. In this way practically all of the pulp, as well as all of the various loading materials, put into the beaters eventually finds its way into the finished sheet of paper.

GLOSSARY OF OCCUPATIONS

PULP MILL

Riverman (pond man).—When wood has been floated to mill or dumped into water for storage, straightens out log jams, using a pike pole to work the logs along into the yard. (Tabulated under laborers.)

Rackman.—Clears away driftwood, etc., from racks which keep refuse from entering the mill with the water supply. (Tabulated under laborers). (This term is also often used to designate a block handler in the grinder room of the ground-wood plant.)

Scaler.—Measures wood and makes computations to determine quantity received at yard. (Tabulated under laborers.)

Unloader.—Unloads logs, usually with canthooks, from cars or boats onto mechanical conveyors. (Tubulated under laborers.)

Head preparer (foreman, wood room).—Has complete charge of the sawing, barking, splitting, chipping, etc., in the wood room.

Sawyer.—Feeds the logs to the chain which carries them to a circular saw mounted on an inclined table. This term is usually applied where a single saw is in use which is in charge of the operator.

Slasher man.—Feeds logs to the chain which carries them to a group of circular saws mounted on an inclined table known as a slasher table. The care of the equipment is not under the supervision of the operator.

Saw filer.—Files and sets the teeth of the circular saws, being responsible for their condition.

Conveyor man.—Stands along conveyors and by means of a short hook guides the logs to prevent jamming, sorts the logs into the proper bins or onto other conveyors, removes those logs that must go to the splitter, etc.

Barker man.—Picks up the logs, grasping them with a hand near each end, and holds them against the surface of the barking disk, turning them constantly so that the knives attached to the disk may shave off the bark completely. In some mills the logs are fed mechanically. The condition of the equipment itself is not under the supervision of the operator. (Men stationed on conveyors just as logs enter and leave a drum barker are often called barker men. These men would be classified as conveyor men in this study.)

Splitter man.—Takes the larger logs which are removed from the conveyor, catches them with a short hook and drags them to the splitting machine, placing them so that the knife of the machine will strike and split them asunder properly.

Knife grinder.—Removes the blunted knives from the chipping and barking machines, sharpens and replaces them. Care is required to keep the knives evenly balanced in weight, as knives which are not balanced properly on the disk give the latter an uneven motion and on the hand-fed barker create a hazardous situation for the operator.

Screen man.—Cleans off the surfaces of the flat screens and regulates the flow of stock so as to secure the best action as it passes through the screens.

Head pressman.—Has charge of both presses and deckers, concerning himself principally with the flow of stock into the pressers and deckers. He also performs the usual duties of a room foreman.

Pressman (lap cutter, roll skinner, or wet machine tender).—Inserts a wooden pin underneath the layer of pulp formed on the press roll and cuts it from end to end so that it will fall onto the receiving table in front of the machine. He then folds the lap of pulp neatly and puts it into a pile or onto a belt conveyor running along in front of the machine. There is usually one pressman for each machine, though at times one man may tend two machines.

Decker man.—Oversees the action of the pulp thickeners known as "deckers" controlling the height of stock in the vat to regulate the flow of stock so that it will come to the right consistency on the wire. He also watches the height of the stock coming into the vat from the screen room to prevent possible overflow.

Stock handler.—Trucks laps of pulp and piles them for storage, etc. (Tabulated as laborers.)

Pulp-machine tender.—Has charge of machines of special type for pressing pulp and forming it into sheets or drying it and making it into rolls.

Pulp-machine back tender.—Assists pulp-machine tender, working principally at the dry end of the machine.

Laborer.—Performs work of an unskilled nature which does not constitute a specific step in the manufacturing process. This occupation includes such employees as rivermen, rackmen, unloaders, conveyor men, stock handlers, and general yard men.

MECHANICAL PULP

Head grinder man.—Has complete charge of the grinding room, controlling the number of machines in operation in accordance with the power supply available and performing the usual duties of a room foreman.

Grinder man.—Feeds the blocks of wood into the pockets of the grinding machine and watches the pressure on the hydraulic plungers during the grinding operation, so that the stock will not be burned or the stone glazed. Each man usuallyworks between two machines and tends from four to six pockets.

Block handler.—Trucks wood in grinder room and piles it up for the grinder men.

Lineman (stone sharpener).—Puts the proper face on the grindstone (dresses it) to disintegrate thoroughly the wood, the character of the stock depending directly upon the condition of the stone.

Screenman (bull screens).—Keeps the surface of the screens cleaned off to prevent any of the coarser particles from working their way into the stock.

CHEMICAL PULP

Chipper man.—Feeds logs endwise to the spout of the chipper, guiding them from the chain conveyor or picking them up and feeding them by hand. The care of the equipment is not under the supervision of the operator.

Chip-bin man.—Stationed at the chip bins to guide the chips into whichever bin is empty by placing a wooden bar diagonally across the belt conveyor, or directing the fall of the chips in some other way. Requires no skill and very little activity.

SULPHITE PROCESS

Sulphur burner.—Wheels the sulphur from its storage place and fires it, usually by hand, into the sulphur-burning furnace. Manipulates the air supply to the furnace under the direction of the acid maker.

Acid maker.—Oversees the proper combustion of the sulphur in the sulphur-burning furnace and the cooling of the gas in the cooling system; tests the gas leaving furnace and regulates the amount of water in the acid towers so that the gas will be properly absorbed and the acid produced at the proper strength. Tests the acid and pumps it to the reclaiming tanks where it is mixed with blow-off liquor from the previous cook before being used in the digester.

Towerman.—Trucks lumps of limestone and fills the acid towers under the direction of the acid maker.

Cook (digester).—Has complete charge of the chemical cooking or "digesting." Under his direction the digester is filled with chips and acid, steam pressure and temperature are applied, the pressure relieved at times additional liquor is poured in and the cooked pulp finally blown into the blow pits. The cook is required to read tables and indicators to determine quantities, temperature, and pressure and to take samples during the cook to regulate the process to suit the varying moisture content and other variable elements in the wood. He is also responsible for the condition of the digester and, whenever an opportunity is given him, inspects the lining to detect any breaks which would allow the acid to attack the shell.

Cook's helper.—Runs in the amount of liquor determined by the cook, fills digester with chips, operates valves, etc., under direction of cook.

Blow-pit man.—Fills the blow pit with water to wash the pulp, and when the washing is completed hoses the stock out through an opening at the bottom of the pit. Requires little skill or effort but working conditions are disagreeable.

Bleach man.—Regulates the supply of the bleaching liquor and the agitation of the stock through the bleaching process, his specific duties depending upon the kind of equipment in use.

SULPHATE PROCESS

Cook (*digester*).—Performs the same general functions as the sulphite cook except that the cooking liquor does not attack the shell of the digester in this process and so there is no special lining to be inspected.

Diffuser man.—Controls the flow of weak liquor and water through the diffusing system, and when stock is properly washed has it hosed out of the diffuser and pumps the liquor to the recovery system.

Liquor runner.—When stock is washed in pans rather than in the cycle system of diffusers, the stock is dumped into the pans, the flow of weak liquor and water regulated, and the resulting liquor properly diverted to the strong and weak liquor tanks by this employee.

Stock pumper.—Helps the diffuser man or liquor runner, hosing the washed stock out of the pan or diffuser to the pipes leading to the screens.

Evaporator man (*sometimes called after particular type of machine in use, as Yaryan or Zaremba engineer, Swensonman, etc.*).—Controls pump to bring liquor from strong liquor tank in the washing room, tests this liquor, regulates the steam pressure in the evaporators according to the amount and strength of the liquor coming in, tests the strength of the evaporated liquor, and records its temperature.

Recovery man (*rotary man, incinerator man, etc.*).—Controls flow of liquor into rotary furnace and firing of the rotary furnace, watches that the ash coming from the furnace is at the proper consistency, and oversees the firing of this ash to the smelter, together with fresh sulphate and when necessary some sawdust; controls the draft to the smelter, keeps the passage for the fused ash to the dissolving tanks clear, and pumps weak liquor to the dissolving tanks as necessary to keep the liquor in these tanks at the right consistency.

Smelter man (*black ash fireman*).—Fires black ash from the rotary furnaces to the smelter under the direction of the recovery man. (Where the rotary furnaces are so arranged that they discharge directly into the smelting furnaces this occupation does not appear.)

Caustic man (*liquor maker, alkali man*).—Pumps the liquor from the dissolving tanks to tanks in the caustic room, tests its strength and dilutes with weak liquor or builds up with fresh chemicals as required, directs the addition of lime, boils the liquor and controls the agitators, allows the lime to settle, siphons off the strong liquor and washes the lime, directing the strong liquor to the tanks for use in the succeeding cooks and the weak liquor to weak liquor tanks so that it may be reused until it becomes in turn a strong liquor.

Rag sorter.—Sorts rags into various grades and colors, rips off pockets, etc., and cuts off buttons, rubber, or metal pieces.

Rag cutter.—Feeds rags to the rag-cutting machine.

Rag worker.—Performs general work in the rag room, opening bales, inspecting, etc.

Rag cook.—Supervises the loading of the rags into the cooking boiler, and the cooking and dumping of the rag stock back onto the floor of the cooking chamber.

Washerman.—Oversees the loading of the rag stock from the cooking boilers into the Hollander machines, supervises the washing process and the use of the bleaching chemicals.

Sorter (*waste paper*).—Sorts waste-paper stock, throwing out undesirable grades and colors.

Deinker (*waste paper*).—Supervises loading and unloading of waste-paper stock to the cooking boiler and supervises the deinking process.

PAPER MILL

Beater engineer (*head beaterman*).—Has charge of the beater room or of a group of machines in that room during the shift he works, directing the loading and dumping of the beaters, the mixture and addition of clay and size, alum and color, and the refining process in the Jordans. He is responsible directly to the mill superintendent or, in some large mills, to a special supervisor known as a beater foreman.

Beater man (*beater helper, valve man, beater dumper, alum man, color man, etc.*).—Controls valves to load and dump beaters, hauls stock and loads it to the beaters by hand, and adjusts the beater roll under the direction of the beater engineer. These men usually work in pairs, two men tending two beating engines or as a room crew performing any or all of the tasks mentioned. (This occupation has been taken to include middlemen, first helpers, loaders, etc., as well as general beater help, but not to include employees whose job is entirely trucking and who do not assist directly in loading or operating beating machines.)

Size maker.—Weighs and dissolves soda ash in hot water, dumps resin from barrels and shovels it into tank where it is cooked with soda ash; when cooked, allows whole to emulsify in hot water and pumps it to stock tank.

Clay man.—Screens clay and prepares it for beaters. (Employees who actually put clay or other loading materials into the beaters are classified as beater men.)

Beater furnisher (cellar man).—Works in storage room getting proper amount of materials ready for beater men according to the "furnish" required in the stock to be made.

Drainer.—Takes charge of the tanks in which the stock is stored before going to the beaters; adds sufficient water to allow stock to be pumped from the drainers to the beater room or shovels it out by hand.

Broke beater.—Loads and tends the special beating machines which are used to shred paper which is returned as scrap from the machine and finishing rooms.

Mixer man.—An occupation found in newsprint mills where a mixer system is in use to replace beating machines. The operator controls the valves which regulate the flow of stock, observes that the proportions as registered by the gauges are correct, takes a sample of each batch, and tests and records the consistency of the stock.

Shredder.—Feeds and controls machine which shreds out lap stock in preparation for the beating process.

Pulper (kneader).—Stuffs scrap into a machine which saturates it with steam and pounds it into a pulpy mass, preparing it for the beaters or for storage.

Boss machine tender.—A skilled machine tender employed in some mills to supervise the machine room, directing and assisting the individual machine tenders and performing the usual duties of a room foreman. In a few places his supervision extends to the beater room as well. This job is usually found only on the day shift, though the machine men on the other shifts come under the direction of the boss machine tender.

Machine tender.—Has charge of the machine and crew on one paper machine and directs the process from the time the stock leaves the Jordans until the paper is reeled at the dry end of the machine. He works principally at the wet end of the machine, watching the flow of stock, the condition of the wire and deckel straps, the adjustment of the rolls, etc., and regulates the speed at the end of the machine.

Back tender.—Is the machine tender's principal helper, assists him in putting on and adjusting wire, felts, etc., controls the speed and heating of the dryer rolls and assumes charge of the dry end of the machine. When paper is started over the machine he leads the web through the press rolls and the steam dryers and passes it from the dryers to the first roll of the calenders and through the stack to the reels.

Third hand.—Takes charge of the winding and rewinding of the paper on the reels, assists in putting on machine clothing, washing up, etc., and works with the back tender in leading the paper from the wet end through the press and dryer rolls and the calender stack to the reels.

Fourth hand.—Large paper machines require a fourth hand, who assists in puting on machine clothing, washing up, etc., helps the third hand at the reels and assists the back tender and third hand in leading paper through the machine.

Fifth and sixth hands.—Some newsprint machines which are of wide trim and run at high speed require as many as six hands to a crew. These extra men wash screens and help to manipulate the wet felts when washing up, adjust levers as directed, play the hose across the wire to cut off the web of paper when desired, and give such other assistance as is required.

Spare hand (spare machine tender, spare back tender, spare third hand, etc.).—Works on the day shift in the machine room, assisting in putting on machine clothing, minor repairs, cleaning up, etc., and when required takes the place of any of the regular machine men who are absent from a particular shift.

Broke hustler.—Picks up broke (scraps of paper which accumulate when the web of paper breaks, etc.) and trucks it back to the pulpers or broke beaters. (Tabulated under laborers.)

Oiler.—Oils the parts of the paper machine, one man taking care of one or possibly two machines. Such men are called "machine oilers." Oilers assigned to the driving apparatus in the basement of the machine room are called "basement oilers," while the men working throughout the plant are called "mill oilers."

Rewinder man.—Places rolls of paper coming from the paper machine onto a winding machine to be rewound evenly and cut to smaller rolls by slitters. He controls the machine and removes the rolls.

Rewinder man's helper.—Assists the rewinder man in loading the rewinder and removing rolls.

Boss calender man.—Assigns paper to the proper calender according to the finish desired, oversees condition of rolls on calender stacks, and performs usual duties of a room foreman.

Calender man.—Places roll of paper on reel in front of calender, starts rolls slowly, threads web of paper through the stack and back to reeler, and then increases speed of machine, watching that no dirt from the rolls gathers on the paper, etc., as it passes through the stack.

Calender helper.—Assists calender man to load and unload reels, works at the back of the stack, passing paper which the calender man puts through an upper pair of rolls back through the next lower pair and so on down the stack, and performs such other duties as the calender man may direct.

Coating-machine runner.—Loads paper onto reels which feed the coating machine, regulates the flow of the coating liquid, the action of the brushes, and the speed of the machine. (On small machines the coating liquid may be put into the troughs by boys and roll boys employed to put rolls on the reels, any further supervision of the machine coming directly under the room foreman. In these plants the occupation of "coating-machine runner" has been considered as not existing.)

Reel man—coating department.—Assumes charge of paper after it leaves the coating machine and while it is passing in loops through the drying gallery. He controls the reeling machines which wind the paper again into rolls, maintaining the proper tension to remove creases and wind paper evenly at both ends of the roll.

Cutter man.—Loads rolls of paper onto cutting machine, observes condition of knives and adjusts their spacing to cut desired size sheet, and removes cut sheets from the machine. (In many plants the spacing of knives, their condition, etc., is cared for by the head cutter man and knife sharpener, and only cutter helpers are employed to handle rolls and stacks of cut paper.)

Cutter girl.—Stationed at table of cutting machine to pull out wrinkled or spoiled sheets and jog the sheets into an even pile ("laying"). The girl at times has to pass quickly from the front to the back of the machine to prevent the paper jamming and usually has a control at hand to stop and start the machine when necessary.

Loft man.—Hangs sheets of animal-sized paper in an air-drying loft, regulates the temperature in the loft and the ventilators, and removes the sheets when dry, jogging them into even piles as he stacks them up. (Where the machine method is employed a crew will be found consisting of a machine tender, back tender, and third hand. These men were not classified as loft men in this study.)

Plater man.—Takes the stack of paper and pressing material from the plater girl, feeds it to the machine, starts and reverses the rolls, and returns the stack to the girl to be taken down.

Plater girl.—Stacks up the layers of paper and the pressing materials used and takes the stack down again. Two girls usually work together, one girl putting the sheets of paper from the returned stack in one pile and the press layers in another, while the other girl inserts the sheet of paper between the press layers as they are put down. The girls alternate tasks with one another at definite intervals.

Sorter.—Examines the paper sheet by sheet and removes any imperfect sheets. (Sorting as a distinct occupation exists only where this special sorting is done after the paper is taken from the cutters.)

Counter.—Count sheets, grasping the edge of a pile of paper and jogging it quickly to spread the sheets into a fan-like arrangement while they use the fingers of the other hand to make the count. (In most mills girls are employed for this work. In many establishments the count is made at the table of the cutting machine by keeping track of the clips made by the machine. The sheet packers very often do the counting themselves. In these cases counting is not an occupation as distinct from cutter girls and packers, respectively.)

Packer (roll finisher, sheet finisher, counter-roll finisher, bundler, tier, roll wrapper).—Puts wrapper on large or small rolls or wraps and ties sheets in bundles and seals, labels, and prepares the paper for shipment.

Sealer.—Wraps the small-size sheets of paper and seals the package with gummed tape. An occupation for female workers or for boys.

Trimmer man (press cutter.)—Evens up the pile of sheets by jogging them against the walls of the trimmer table and releases the knife which cuts the edges

off squarely. Similar presses are at times used to cut large sheets into smaller sizes.

Trucker—Finishing room (loader).—Trucks finished paper from finishing room to cars or trucks. Where large rolls are shipped this trucking is heavier work than that found throughout the mill and a rate above the general labor rate is usually paid. (Tabulated under laborers.)

Weigher.—Manipulates the scales and records the weight of the paper that is shipped.

Repair man.—Maintains the mill equipment. (This term will include such occupations as those of millwright, blacksmith, machinist, carpenter, mason, piper, electrician, painter, and their helpers.)

Laborer.—Performs work of a general and unskilled nature. (This occupation includes such work as that of broke hustler, truckers, and general yard help.)

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