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WAGES AND HOURS OF LABOR SERIES

**WAGES AND HOURS IN RAYON
AND OTHER SYNTHETIC YARN
MANUFACTURING, 1930**



FEBRUARY, 1932

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WAGES AND HOURS IN RAYON AND OTHER SYNTHETIC YARN MANUFACTURING, 1930

This report presents the results of a study in 1930 by the Bureau of Labor Statistics of wages and hours of labor of wage earners in rayon and other synthetic yarn manufacturing in the United States. Data covering individual hours and earnings of 18,743 males and 13,549 females for a representative pay period, by occupations, were collected by an agent of the bureau directly from the pay rolls and other records of 21 representative establishments. The pay period, except for a few plants, was in February, March, April, or May.

AVERAGE HOURS AND EARNINGS, 1930, BY OCCUPATIONS

Average full-time hours per week, earnings per hour, and full-time earnings per week are presented in Table 1 for each of the occupations in the industry that were important in number of wage earners, for a miscellaneous group of "other employees" in other occupations, each too few in number of wage earners to warrant tabulation as an occupation, and also for all occupations combined, or the industry.

Average full-time hours per week for males in all occupations were 51.1; for females, 49.0; and for both sexes, or the industry, 50.2. Average earnings per hour for males in all occupations were 50.4 cents; for females, 34.4 cents; and for both sexes, or the industry, 44.1 cents. Average full-time earnings per week for males in all occupations were \$25.75; for females, \$16.86; and for both males and females, or the industry, \$22.14.

Average full-time hours per week for males by occupations range from 49.4 for skein driers to 55.6 for cake wringers, and for females from 45.6 for spoolers to 51.7 for filter cleaners.

Average earnings per hour for males by occupations range from 35.4 cents for winders (cone, quill, cop, and bobbin) to 58.8 cents for spinning-bath men, and for females from 24.4 cents for truckers and handlers to 50.8 cents for spoolers.

Average full-time earnings per week for males by occupations range from \$17.70 for winders (cone, quill, cop, and bobbin) to \$29.81 for spinning-bath men, and for females from \$12.54 for truckers and handlers to \$23.16 for spoolers.

WAGES AND HOURS OF LABOR

TABLE 1.—Average hours and earnings, 1930, by occupation and sex

Occupation	Sex	Number of establishments	Number of wage earners	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Chemical building workers.....	Male.....	21	1,782	53.6	\$0.527	\$28.25
Spinning-bath men.....	do.....	21	229	50.7	.588	29.81
Spinners.....	do.....	21	4,559	49.9	.564	28.14
	Female.....	2	163	48.0	.310	14.88
Machine cleaners.....	Male.....	16	220	51.5	.458	23.59
Spinneret cleaners.....	do.....	19	161	51.4	.555	28.53
	Female.....	5	34	50.9	.298	15.17
Filter cleaners.....	Male.....	18	134	52.9	.457	24.18
	Female.....	5	28	51.7	.313	16.18
Bobbin washers.....	Male.....	9	443	50.0	.463	23.15
Cake washers.....	do.....	6	164	54.0	.437	26.30
Cake wringers.....	do.....	3	82	55.6	.449	24.96
Bobbin driers.....	do.....	3	77	52.2	.452	23.59
Cake driers.....	do.....	5	34	55.3	.490	27.10
Cake inspectors.....	do.....	3	34	55.3	.526	29.09
	Female.....	5	111	49.8	.346	17.23
Pump testers.....	Male.....	21	147	52.9	.501	26.50
Spoolers.....	Female.....	3	523	45.6	.508	23.16
Twisters or throwers.....	Male.....	6	722	49.7	.335	19.13
	Female.....	12	1,894	49.7	.319	15.85
Reelers and lacers.....	do.....	20	4,636	49.5	.351	17.37
Winders, cone, quill, cop, or bobbin.....	Male.....	10	1,013	50.0	.354	17.70
	Female.....	17	2,402	48.2	.332	16.00
Skein washers and bleachers.....	Male.....	10	865	51.5	.458	25.13
Skein driers.....	do.....	15	181	49.4	.453	22.38
	Female.....	12	300	48.7	.359	17.48
Skein inspectors.....	do.....	20	2,269	48.9	.342	16.72
Cone inspectors.....	do.....	18	220	48.3	.346	16.71
Wrappers and packers.....	Male.....	14	206	50.3	.494	24.85
	Female.....	20	343	49.1	.338	16.60
Truckers and handlers.....	Male.....	21	1,409	50.5	.369	18.63
	Female.....	7	112	51.4	.244	12.54
Laborers.....	Male.....	21	837	51.6	.394	26.33
Other employees.....	do.....	21	5,644	51.3	.550	28.22
	Female.....	21	574	50.0	.325	16.25
Total wage earners.....	Male.....	21	18,743	51.1	.504	25.75
	Female.....	21	13,549	49.0	.344	16.86
Grand total, males and females.....		21	32,292	50.2	.441	22.14

AVERAGE HOURS AND EARNINGS, 1930, BY DISTRICTS

Average full-time hours per week, earnings per hour, and full-time earnings per week for wage earners of each sex and for both sexes combined are presented in Table 2 by districts. The averages are shown by districts instead of by States, so as to avoid presenting figures for one establishment alone.

District 1 includes 1 plant in Connecticut, 2 in Massachusetts, 1 in New Hampshire, and 1 in Rhode Island.

District 2 includes 1 plant in Delaware, 2 in New York, 2 in Ohio, and 1 in Pennsylvania.

District 3 includes 1 plant in Georgia, 1 in Maryland, 1 in North Carolina, 3 in Tennessee, and 4 in Virginia.

TABLE 2.—Average hours and earnings, 1930, by sex and district

Sex and district	Number of establishments	Number of wage earners	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
MALES					
District 1.....	5	861	50.7	\$0.508	\$25.76
District 2.....	6	4,415	49.9	.657	32.78
District 3.....	10	13,467	51.5	.453	23.33
Total.....	21	18,743	51.1	.504	25.75
FEMALES					
District 1.....	5	837	50.8	.357	18.14
District 2.....	6	3,482	47.5	.447	21.23
District 3.....	10	9,230	49.4	.307	15.17
Total.....	21	13,549	49.0	.344	16.86
MALES AND FEMALES					
District 1.....	5	1,698	50.7	.439	22.26
District 2.....	6	7,897	48.9	.573	28.02
District 3.....	10	22,697	50.6	.396	20.04
Total.....	21	32,292	50.2	.441	22.14

AVERAGE AND CLASSIFIED EARNINGS PER HOUR, BY OCCUPATIONS

Table 3 presents average earnings per hour, and also a percentage distribution, by average earnings per hour, of the wage earners that were included in each and all occupations in the study of the industry in 1930.

The 1,782 chemical-building workers of the 21 establishments included in the study earned an average of 52.7 cents per hour. From the table it will be seen that the average earnings per hour of less than 1 per cent of these employees were 24 and under 25 cents; of 16 per cent were 50 and under 55 cents; of 15 per cent were 55 and under 60 cents; of 11 per cent were 60 and under 65 cents; of 1 per cent were 90 and under 95 cents; and of less than 1 per cent were 95 cents and under \$1 per hour. These employees include all of those in the chemical building in all occupations, because in a number of the establishments such employees are continually shifting from one position to another.

WAGES AND HOURS OF LABOR

TABLE 3.—Average hourly earnings and per cent of employees earning each classified amount per hour, 1930, by occupation and sex

Occupation.....	Chemical building workers		Spinning-bath men		Spinners		Machine cleaners	Spinneret cleaners		Filter cleaners		Bobbin washers
	M.	M.	M.	F.	M.	F.	M.	F.	M.	F.	M.	
Establishments.....	21	21	21	2	16	19	5	18	5	18	5	9
Employees.....	1,782	229	4,359	163	220	161	34	134	28	443		
Average earnings per hour.....	\$0.527	\$0.588	\$0.564	\$0.310	\$0.458	\$0.555	\$0.298	\$0.457	\$0.313	\$0.463		

CLASSIFIED EARNINGS	Per cent of employees earning each classified amount per hour											
20 and under 21 cents.....									3			
23 and under 24 cents.....				1								
24 and under 25 cents.....	(1)							1	3			
25 and under 27½ cents.....	(1)		(1)	10	1	2	12	21	36			
27½ and under 30 cents.....	1		(1)	50	2	3	29	5	7			2
30 and under 32½ cents.....	3		4	10	8	1	29	3	11			5
32½ and under 35 cents.....	3	5	4	7	10	2	15	1	21			13
35 and under 37½ cents.....	4	2	4	11	12	1	3	4	4			9
37½ and under 40 cents.....	4	1	2	8	2	7	3	9	21			7
40 and under 42½ cents.....	5	8	3	2	4	3	3	4	14			4
42½ and under 45 cents.....	5	3	9		(1)	9	1	1	4			4
45 and under 47½ cents.....	8	2	7		21	7	3	10	12			2
47½ and under 50 cents.....	6	6	3		4	2		17	6			6
50 and under 55 cents.....	16	9	8	1	4	8		9	5			5
55 and under 60 cents.....	15	5	11		5	6		17	13			7
60 and under 65 cents.....	11	20	12		18	14		5	2			
65 and under 70 cents.....	7	18	17		9	17		2				
70 and under 75 cents.....	2	3	2			2		12				(1)
75 and under 80 cents.....	2		(1)			1		1				(1)
80 and under 85 cents.....	4	13	1			2						
85 and under 90 cents.....	2	5	12			12						
90 and under 95 cents.....	1	1	(1)									
95 and under 100 cents.....	(1)											

Occupation.....	Cake washers		Cake wringers	Bobbin drivers	Cake drivers	Cake inspectors		Pump testers	Spoolers	Twisters or throwers	
	M.	M.	M.	M.	M.	F.	M.	F.	M.	F.	
Establishments.....	6	3	9	5	3	5	21	3	6	12	
Employees.....	164	82	77	34	34	111	147	523	722	1,834	
Average earnings per hour.....	\$0.487	\$0.449	\$0.452	\$0.490	\$0.528	\$0.346	\$0.501	\$0.508	\$0.385	\$0.319	

CLASSIFIED EARNINGS	Per cent of employees earning each classified amount per hour											
12 and under 13 cents.....										(1)	(1)	
13 and under 14 cents.....										(1)	(1)	
15 and under 16 cents.....										(1)	(1)	
16 and under 17 cents.....										(1)	(1)	
17 and under 18 cents.....												4
18 and under 19 cents.....										1		1
19 and under 20 cents.....										1		3
20 and under 21 cents.....										1		1
21 and under 22 cents.....												2
22 and under 23 cents.....										(1)		6
23 and under 24 cents.....										(1)		3
24 and under 25 cents.....										1		19
25 and under 27½ cents.....							2	1	(1)	4		10
27½ and under 30 cents.....			1				2		(1)	4		7
30 and under 32½ cents.....	1	1	9				21	6	(1)	8		8
32½ and under 35 cents.....			12				16	2	2	4		10
35 and under 37½ cents.....	4	1	9	6			44	3	3	7		10
37½ and under 40 cents.....	24	1	9	6			6	5	4	11		4
40 and under 42½ cents.....	5	11	19	6			7	5	8	33		3
42½ and under 45 cents.....	13	77	1	38			1	1	7	10		1
45 and under 47½ cents.....	2		10	6			1	18	7	4		9
47½ and under 50 cents.....	1		3				12	6	8	1		6
50 and under 55 cents.....	13	2	1	24	82	1	22	19	2	2		1
55 and under 60 cents.....	15	1	5	3			10	21	2		(1)	
60 and under 65 cents.....	16	1	8	9	3		7	18	1			
65 and under 70 cents.....	6		12	9			8	(1)	1			
70 and under 75 cents.....	5	2					1	(1)				
75 and under 80 cents.....		1										
80 and under 85 cents.....					3			5				

1 Less than 1 per cent.

TABLE 3.—Average hourly earnings and per cent of employees earning each classified amount per hour, 1930, by occupation and sex—Continued

Occupation.....	Reelers and lacers		Winders, cone, quill, cop, or bobbin		Skein washers and bleachers		Skein driers		Skein inspectors	Cone inspectors	Wrappers and packers	
	F.	M.	F.	M.	M.	F.	F.	F.	F.	M.	F.	
Establishments.....	20	10	17	19	15	12	20	18	14	20		
Employees.....	4,636	1,013	2,402	865	181	300	2,269	220	206	343		
Average earnings per hour.....	\$0.351	\$0.354	\$0.332	\$0.488	\$0.453	\$0.359	\$0.342	\$0.346	\$0.494	\$0.338		

CLASSIFIED EARNINGS	Per cent of employees earning each classified amount per hour										
	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10 and under 11 cents.....	(1)										
11 and under 12 cents.....	(1)										
12 and under 13 cents.....	(1)		(1)								
13 and under 14 cents.....	(1)		(1)								
14 and under 15 cents.....	(1)	(1)	(1)								
15 and under 16 cents.....	(1)	(1)	(1)								
16 and under 17 cents.....	(1)	(1)	(1)								
17 and under 18 cents.....	2	5	(1)				(1)				
18 and under 19 cents.....	3	3	2				1	3	1		1
19 and under 20 cents.....	2	1	2					1			(1)
20 and under 21 cents.....	3	(1)	3				(1)	1			2
21 and under 22 cents.....	3	(1)	1					2	(1)		1
22 and under 23 cents.....	4	(1)	2				(1)	2	2		2
23 and under 24 cents.....	2	(1)	1					2	2		1
24 and under 25 cents.....	2	(1)						3	3		1
25 and under 27½ cents.....	3	4	25		1	4	6	11	1		13
27½ and under 30 cents.....	3	8	7	(1)	3	12	5	6	1		8
30 and under 32½ cents.....	5	11	7	1	6	1	11	12	5		13
32½ and under 35 cents.....	6	11	9	(1)	2	(1)	10	6	8		3
35 and under 37½ cents.....	12	13	9	3	9	2	15	14	9		8
37½ and under 40 cents.....	8	16	5	6	8	60	12	10	2		20
40 and under 42½ cents.....	8	9	6	8	18	16	16	7	12		14
42½ and under 45 cents.....	9	4	5	5	5	(1)	3	5	1		11
45 and under 47½ cents.....	10	5	3	25	3	3	10	6		(1)	
47½ and under 50 cents.....	6	1	3	2	2		2	3	(1)		
50 and under 55 cents.....	5	2	5	19	11		2	1	17		2
55 and under 60 cents.....	1	1	2	15	18		1	2	9		1
60 and under 65 cents.....	1	2	1	5	3		(1)	1	9		
65 and under 70 cents.....	(1)	2	(1)	6	11		(1)	(1)	11		
70 and under 75 cents.....	(1)	1	(1)	4			(1)		4		
75 and under 80 cents.....	(1)								3		
80 and under 85 cents.....	(1)										

Occupation.....	Truckers and handlers		Laborers		Other employees		All employees		
	M.	F.	M.	M.	F.	M.	F.	Total	
Establishments.....	21	7	21	21	21	21	21	21	
Employees.....	1,409	112	837	5,644	574	18,743	13,549	32,292	
Average earnings per hour.....	\$0.369	\$0.244	\$0.394	\$0.550	\$0.325	\$0.504	\$0.344	\$0.441	

CLASSIFIED EARNINGS	Per cent of employees earning each classified amount per hour								
	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
10 and under 11 cents.....								(1)	(1)
11 and under 12 cents.....								(1)	(1)
12 and under 13 cents.....							(1)	(1)	(1)
13 and under 14 cents.....								(1)	(1)
14 and under 15 cents.....	(1)			(1)	(1)		(1)	(1)	(1)
15 and under 16 cents.....				(1)	(1)		(1)	(1)	(1)
16 and under 17 cents.....				(1)	(1)		(1)	(1)	(1)
17 and under 18 cents.....				(1)	1		(1)	1	1
18 and under 19 cents.....	1	3		(1)	1		(1)	2	1
19 and under 20 cents.....	(1)			(1)	(1)		(1)	1	1
20 and under 21 cents.....	1	24		(1)	2		(1)	3	1
21 and under 22 cents.....	(1)	3		(1)	1		(1)	2	1
22 and under 23 cents.....	1	3		1	3		(1)	2	1
23 and under 24 cents.....	(1)	39		(1)	5		(1)	3	1
24 and under 25 cents.....	1	1	(1)	(1)	3		(1)	2	1
25 and under 27½ cents.....	14	10	12	2	8		3	10	6
27½ and under 30 cents.....	10	7	12	1	13		3	6	4

1 Less than 1 per cent.

WAGES AND HOURS OF LABOR

TABLE 3.—Average hourly earnings and per cent of employees earning each classified amount per hour, 1930, by occupation and sex—Continued

Occupation.....	Truckers and handlers		Laborers	Other employees		All employees		
	M.	F.	M.	M.	F.	M.	F.	Total
Sex.....								
Establishments.....	21	7	21	21	21	21	21	21
Employees.....	1,409	112	837	5,644	574	18,743	13,549	32,292
Average earnings per hour.....	\$0.369	\$0.244	\$0.394	\$0.550	\$0.325	\$0.504	\$0.344	\$0.441

CLASSIFIED EARNINGS—con	Per cent of employees earning each classified amount per hour							
	M.	F.	M.	M.	F.	M.	F.	Total
30 and under 32½ cents.....	10	2	11	3	29	5	8	6
32½ and under 35 cents.....	7		4	2	6	4	7	5
35 and under 37½ cents.....	12		3	4	4	5	11	8
37½ and under 40 cents.....	7	4	6	3	8	5	9	7
40 and under 42½ cents.....	7		20	6	5	8	8	8
42½ and under 45 cents.....	2	1	5	3	2	5	5	5
45 and under 47½ cents.....	9	1	3	8	1	3	6	7
47½ and under 50 cents.....	5		1	2	7	3	4	3
50 and under 55 cents.....	4	4	7	11	(1)	10	7	7
55 and under 60 cents.....	2		15	11	(1)	10	6	6
60 and under 65 cents.....	3		2	13	(1)	10	2	6
65 and under 70 cents.....	2		1	10		9	1	6
70 and under 75 cents.....	2		(1)	7		3	(1)	5
75 and under 80 cents.....			(1)	2	(1)	2	(1)	2
80 and under 85 cents.....				6		1	(1)	1
85 and under 90 cents.....				2		4		1
90 and under 95 cents.....				1		1		(1)
95 and under 100 cents.....				(1)		(1)		(1)
100 and under 110 cents.....				1		(1)		(1)
110 and under 120 cents.....				(1)		(1)		(1)
120 and under 130 cents.....				(1)		(1)		(1)
140 and under 150 cents.....				(1)		(1)		(1)
160 and under 170 cents.....				(1)		(1)		(1)

¹ Less than 1 per cent.

REGULAR OR CUSTOMARY HOURS OF OPERATION

Table 4 shows for the wage earners included in each of the 24 important occupations in the industry in 1930, for the miscellaneous group of "other employees," and for the wage earners in all occupations combined, average full-time hours per week, and the per cent in each classified group of full-time hours per week. For a distribution of the number of wage earners in each occupation and district, by full-time hours per week, see Table C, page 26.

The customary full-time hours per week are those recognized as constituting full running time under normal conditions, without taking into consideration any overtime or lost time in the week by any individual for any cause.

Reading the figures for the 1,782 male chemical-building workers, it is seen that in 1930 their average full-time hours were 53.6 per week; that the full-time hours of 2 per cent of them were 45 and under 48 per week; of 28 per cent were 48 per week; of 1 per cent were 54 per week; of 1 per cent were 55 per week; of 68 per cent were 56 per week; and that less than 1 per cent were over 60 and not over 72 per week.

Table 5 shows for the males and the females of each of the 21 establishments covered in the 1930 study of the industry the prevailing regular or customary full-time hours per week and per day (Monday to Friday, Saturday, and Sunday). In some establishments the full-time hours of a few wage earners were less or more than those for the majority of the wage earners in such establishments, but in each case the hours of the greater number of wage earners of each sex are presented in this table as the hours of each establishment as a whole.

Two sets of hours are reported for males of 20 establishments—one for those with working hours on Monday to Saturday and Sunday and the other for those with working hours on six days and none on Sunday. The males of 7 establishments with working hours on Sunday were given one day off duty each week, and the males of 13 establishments were continuous 7-day week workers.

Hours per week of males and females ranged by establishments from 48 to 56, and per day—Monday to Friday—from 8 to 10. Hours on Saturday of males and females ranged from $4\frac{1}{4}$ to 9.

TABLE 5.—Number of establishments in each district in 1930 with specified full-time hours per week and per day

Sex	Full-time hours per week	Full-time hours per day			Number of establishments			
		Monday to Friday	Saturday	Sunday	District 1	District 2	District 3	Total
Male.....	48	8	8	8				
Female.....	48	8 $\frac{3}{4}$	5	8			1	1
Male.....	48	8	8	18				
Do.....	48	8	8	18				
Female.....	44 $\frac{1}{4}$	8	4 $\frac{1}{2}$	8			1	1
Male.....	48	8	8	18				
Do.....	48	8	8	8			1	1
Female.....	48	8 $\frac{3}{4}$	5	8				
Male.....	48	8	8	18				
Do.....	48	8 $\frac{3}{4}$	4 $\frac{1}{4}$	8	1			1
Female.....	48	8 $\frac{3}{4}$	4 $\frac{1}{4}$	8				
Male.....	48	8	8	18				
Do.....	49 $\frac{1}{2}$	9	4 $\frac{1}{2}$	8		1		1
Female.....	49 $\frac{1}{2}$	9	4 $\frac{1}{2}$	8				
Male.....	48	8	8	18				
Do.....	50	9 $\frac{1}{4}$	4 $\frac{1}{4}$	8	1			1
Female.....	50	9 $\frac{1}{4}$	4 $\frac{1}{4}$	8				
Male.....	48	8	8	18				
Do.....	48	8	8	8			1	1
Female.....	52	9 $\frac{1}{4}$	5 $\frac{1}{4}$	8				
Male.....	48	8	8	18				
Do.....	54	9 $\frac{1}{4}$	5 $\frac{1}{4}$	8	1			1
Female.....	54	9 $\frac{1}{4}$	5 $\frac{1}{4}$	8				
Male.....	56	8	8	8				
Do.....	48	8	8	8		1		1
Female.....	45	8	5	8				
Male.....	56	8	8	8				
Do.....	48	8	8	8		1		1
Female.....	47 $\frac{3}{4}$	8 $\frac{3}{4}$	4 $\frac{1}{2}$	8				
Male.....	56	8	8	8				
Do.....	48	8	8	8		1		1
Female.....	48	8	8	8				
Male.....	56	8	8	8				
Do.....	48	8 $\frac{3}{4}$	4 $\frac{1}{4}$	8	1	1		2
Female.....	48	8 $\frac{3}{4}$	4 $\frac{1}{4}$	8				
Male.....	56	8	8	8				
Do.....	48	8	8	8			1	1
Female.....	48 $\frac{1}{4}$	8 $\frac{3}{4}$	4 $\frac{1}{2}$	8				
Male.....	56	8	8	8				
Do.....	48	8	8	8			2	2
Female.....	50	9	5	8				
Male.....	56	8	8	8				
Do.....	49 $\frac{1}{2}$	9	4 $\frac{1}{2}$	8		1		1
Female.....	49 $\frac{1}{2}$	9	4 $\frac{1}{2}$	8				
Male.....	56	8	8	8				
Do.....	54	9	9	8			1	1
Female.....	45	8	5	8				

¹ Off duty 1 day each week.

TABLE 5.—*Number of establishments in each district in 1930 with specified full-time hours per week and per day—Continued*

Sex	Full-time hours per week	Full-time hours per day			Number of establishments											
		Monday to Friday	Saturday	Sunday	District 1	District 2	District 3	Total								
Male.....	56	8	8	8	}	}	}	}								
Do.....	54	9	9	8												
Female.....	54	9	9	8					1	}	}	1				
Male.....	56	8	8	8												
Do.....	54	9 $\frac{3}{4}$	9 $\frac{3}{4}$	8					1	}	}	}				
Female.....	54	9 $\frac{3}{4}$	9 $\frac{3}{4}$	8												
Male.....	56	8	8	8					}	}	}	}				
Do.....	55	10	5	5												
Female.....	55	10	5	5									1	}	}	1
Do.....	55	10	5	5												
Total.....									5	6	10	21				

CHANGES IN WAGE RATES AND HOURS SINCE JANUARY 1, 1929

None of the 21 establishments included in the report made changes in wage rates between January 1, 1929, and the period of the 1930 study, and only 2 of them made changes in regular full-time hours. The hours of wage earners in most of the occupations in the 2 were reduced from 55 to 48 per week.

PAY FOR OVERTIME AND FOR WORK ON SUNDAY AND HOLIDAYS

Time worked in excess of the regular full-time hours per day and per week is overtime. Work on Sunday and holidays is extra time only when worked by wage earners whose regular working time does not provide for work on those days.

In 6 of the 21 establishments covered in 1930 the rate for overtime and for extra work on Sunday and holidays was higher than for regular working time and applied to the specified occupations in Table 6. The rate for such work to the wage earners in the other occupations in these plants was the same as for regular working time. The higher rates for overtime were one and one-tenth, one and one-fourth, or one and one-half times the rate for regular working time and for extra work on Sunday and holidays was one and one-fourth or one and one-half times the regular rate. In 1 plant the rate for overtime to shift men was the same as for regular working time and to all others was one and one-fourth times the regular rate on Monday to Friday and one and one-half times on Saturday; the rate to shift men for work on Sunday was one and one-fourth times the regular rate and for work on holidays was the same as for regular working time; and the rate for work on Sunday and holidays to all others was one and one-half times the regular rate. In 1 plant the rate for overtime was the same as for regular working time and for work on Sunday and holidays was one and one-half times the regular rate. In 1 plant the rate for overtime and for work on Sunday and holidays was one and one-half times the regular rate. In 13 plants the rate for overtime and for work on Sunday and holidays was the same as for regular working time.

TABLE 6.—Pay for overtime and for Sunday and holiday work, employees entitled, and rate, 1930

Number of establishments	Employees paid extra rate	Times regular rate for each hour of—	
		Overtime on week days	Work on Sunday and holidays
13	All	1	1
1	{Skein washers and driers, packers, reel truckers, maintenance employees except painters, reel machine fixers, reel boss, lead burner and helper, boss skein washer, and clean-up men.	1½ Monday to Friday; 1¼ Saturday.	1¼
	All others	1	1
1	{Coagulating-bath men, spinners, spinneret cleaners, skein and cone packers (day men), truckers and handlers (spinners), mechanics, maintenance employees, stock handlers, air conditioning men, head spinners, and tool cribmen.	1¼	1¼
	All others	1	1
1	{Maintenance men except electricians, mechanics, and yardmen.	1¼	1¼
	All others	1	1
1	{Shift men	1	1¼
	All others	1¼ Monday to Friday; 1½ Saturday.	1½
	Chemical workers	1	1½
	All other day-shift workers	1 for first 2 hours, then 1½	1½
	All other night-shift workers	1 for first hour, then 1½	1½
1	{Day workers on 47½-hour or 52½-hour basis	1½	1½
	Maintenance men	1 for first ½ hour, then 1¼, Monday to Friday; 1½ on Saturday.	1½
	All others	1	1
1	{All	1	1½
1	{All	1½	1½
	Shift men	1	1½
1	{Pump testers and all journeyman mechanics	1½	1½
	All others	1	1

¹ 1¼ between midnight Saturday and midnight Sunday, and 1 for holiday work.

² 1½ between 11 a. m. Saturday and 11 p. m. Sunday, and 1 for holiday work.

BONUS SYSTEMS

A bonus is compensation in addition to earnings at regular time or piece rates. Bonus systems were in operation at the time of study of the rayon industry in 1930 in 12 of the 21 plants for which earnings are presented in this report. The basis of the bonus was attendance in 7 plants, service and attendance in 3, and attendance and quality of work in 2. There was no provision for bonus payments in 9 plants.

Table 7 shows for each of 8 plants the kind of bonus, the wage earners entitled, the amount, and the conditions necessary to get the bonus. General information only was available for the bonus systems in 4 plants not included in the table.

TABLE 7.—*Bonus systems of eight rayon or other synthetic textile plants, 1930*

Number of establishments	Kind of bonus	Wage earners entitled	Amount of bonus	Conditions
2	Attendance.	Night workers.....	10 per cent of earnings at basic rate.	Attendance with no loss of time unless excused by foreman. Perfect attendance.
1	do.	Shift men on 56-hour-week basis, namely, chemical-building workers, spinneret-bath men, spinneret-cage men, spinneret cleaners, truckers and handlers (spinning department), cake washers, wringers, and driers, male cake inspectors, skein washers and bleachers, skein driers, desulphuring-solution men, janitors (spinning department), machine cleaners, plant control inspectors, mechanics, oilers, millwrights, millwrights' helpers, and gang leaders (spinning department).	do.	
1	do.	Shift men of chemical-building workers; machine cleaners and truckers in spinning department; and head spinners and spinners.	5 per cent of earnings at basic rates.	Do.
1	do.	7-day week workers.....	1 day off with pay every 2 weeks.	14 days' perfect attendance. Attendance with no loss of time unless excused by foreman. Service of 6 weeks or more and attendance with no loss of time in week.
1	do.	Inspectors and skein and cone packers.	50 cents per week.....	
2	Service and attendance.	Chemical-building workers; coagulating-bath men; spinners; spinneret cleaners; skein washers and bleachers; skein driers; skein and core packers; truckers and handlers in spinning department; filter cloth washers; and a few others.	\$1 per week for service of 6 weeks and under 6 months; \$1.25 for 6 months and under 1 year; \$1.50 for 1 and under 1½ years; \$1.75 for 1½ years and up to last pay period in second year; \$2 for last pay period in second year and \$2.50 per week for 2 years and over.	

INDEX NUMBERS OF EMPLOYMENT AND OF PAY ROLLS, 1929 AND 1930

Index numbers of employment and of pay rolls in the rayon or other synthetic yarn manufacturing industry are presented in Table 8 for each of the months and years from January, 1929, to December, 1930. The numbers are as published by the Bureau of Labor Statistics in monthly reports on "Trend of Employment." In computing the numbers from averages for employment and for pay rolls each month and year the 1929 average was used as the base or 100 per cent.

During the period January, 1929, to December, 1930, the monthly volume of employment index was highest (104.6) in November, 1929, and lowest (86.4) in December, 1930, and pay rolls were highest (109.3) in March, 1930, and lowest (84.1) in December, 1930.

TABLE 8.—*Indexes of employment and of pay rolls, January, 1929, to November, 1930, by month and year*

[Average for 1929=100.0]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average
Employment													
1929.....	97.6	99.0	101.6	102.0	92.6	95.0	98.9	101.2	100.8	103.7	104.6	102.8	100.0
1930.....	101.3	100.1	101.4	100.2	97.5	98.0	95.1	92.4	91.4	89.1	88.5	86.4	95.0
Pay-roll totals													
1929.....	96.2	97.9	96.6	96.4	92.1	97.3	98.8	103.5	101.8	106.1	109.2	103.9	100.0
1930.....	105.9	108.6	109.3	103.6	104.8	97.3	100.6	88.8	87.8	88.8	88.7	84.1	97.4

IMPORTANCE AND GROWTH OF THE INDUSTRY

The manufacture of rayon or other synthetic yarn is a comparatively new industry. Prior to 1925 the industry was considered of so little importance that it was grouped by the United States Census of Manufactures with "Chemicals, not elsewhere classified." Since 1925 the increasing popularity of the various items of wearing apparel and of miscellaneous articles in which the yarn is used has resulted in tremendous growth in production and in number of wage earners in the industry. The yarn is one of the important materials used by many mills engaged in fabricating cloth underwear and other articles.

The production of rayon or other synthetic yarn in the United States in 1927, by different processes, was as follows: Viscose, approximately 82 per cent; nitrocellulose or chardonnet, 10 per cent; cellulose acetate, 4 per cent; cuprammonium, 2 per cent; and others, 2 per cent.

Table 9 shows the growth of the industry, all processes combined, in 1925, 1927, and 1929 in number of establishments, cost of material, pounds of yarns, value of products, average number of wage earners, and in amount paid to wage earners. The figures are as reported by the United States Census of Manufactures. Average per capita yearly earnings of wage earners, as computed by the Bureau of Labor Statistics, are also presented in this table.

The average number of wage earners increased from 19,128 in 1925 to 26,341 in 1927 and to 38,938 in 1929. Wages likewise increased from \$22,976,000 in 1925 to \$28,649,000 in 1927 and to \$44,704,000 in 1929. The value of products increased from \$88,061,000 in 1925 to \$109,888,000 in 1927 and to \$149,276,000 in 1929. Production increased from 51,902,000 pounds of yarns in 1925 to 75,555,000 pounds in 1927 and to 116,493,000 pounds in 1929. Average per capita yearly earnings of wage earners decreased from \$1,201.15 in 1925 to \$1,087.64 in 1927 and increased to \$1,148.09 in 1929.

TABLE 9.—*Establishments, cost of materials, quantity of yarn manufactured, value of products, wage earners, wages, and average per capita wages, 1925, 1927, and 1929*

[From United States Census of Manufactures]

Year	Number of establishments	Cost of materials	Quantity of yarn manufactured (pounds)	Value of products	Average number of wage earners	Amount paid to wage earners	Average yearly earnings
1925.....	14	\$18,478,000	51,902,000	\$88,061,000	19,128	\$22,976,000	\$1,201.15
1927.....	19	25,748,000	75,555,000	109,888,000	26,341	28,649,000	1,087.64
1929.....	28	33,291,000	116,493,000	149,276,000	38,938	44,704,000	1,148.09

SCOPE AND METHOD

The wage data used in compiling this report are for wage earners of 21 establishments in 13 States. The establishments were at the time of the study engaged wholly in manufacturing rayon or other synthetic yarns. Data for executives, office clerks, employees engaged in the maintenance or construction of buildings, power-house employees, and those whose duties were mainly supervisory were not included. Wage figures are shown in the various tables of the report for wage earners in 24 of the most important occupations in the industry and for the group of "other employees." The group includes all wage earners other than those in the important occupations. Each occupation in the group is too few in number of wage earners to warrant a separate tabulation as an occupation. The group represents only 19 per cent of the total number of wage earners covered in the study.

The 1929 United States Census of Manufactures reports 38,938 wage earners in the industry in the United States, and 36,365, or 94 per cent of them, are in the States covered by this study. Data are shown in this report for 32,292 wage earners, or 83 per cent of the total number in the industry in 1929.

The average earnings per hour for employees in each occupation were computed by dividing the total earnings of all employees in the occupation during the pay-roll period by the total hours worked by such employees during the period.

The average full-time hours per week were computed by dividing the total full-time hours per week of all employees in the occupation by the number of employees in the occupation during the pay period covered. The full-time hours of each employee were used in arriving at this average, even though some employees worked more or less than full time on account of entering or leaving the service during the pay period, overtime, sickness, disability, or some other cause.

Average full-time earnings per week for employees of each occupation were computed by multiplying the average earnings per hour of all employees in the occupation by the average full-time hours per week. This assumes that the earnings for full time would have been at the same average rate per hour as during the time that was actually worked in the pay period covered.

OCCUPATIONS IN THE INDUSTRY

The occupations for which data are presented in this bulletin are arranged below in order of manufacture.

Chemical-building workers.	Spoolers.
Spinning-bath men.	Twisters or throwers.
Spinners.	Reelers and lacers.
Machine cleaners.	Winders, cone, quill, cop, or bobbin.
Spinneret cleaners.	Skein washers and bleachers.
Filter cleaners.	Skein driers.
Bobbin washers.	Skein inspectors.
Cake washers.	Cone inspectors.
Cake wringers.	Wrappers and packers.
Bobbin driers.	Truckers and handlers.
Cake driers.	Laborers.
Cake inspectors.	
Pump testers.	

All wage earners in occupations other than listed above are included in the group of "Other employees."

DEFINITIONS OF OCCUPATIONS

Chemical-building workers are continually shifted from one position or kind of work, to another, each worker performing a number of operations. They unload and strip bales of wood pulp or cotton linters, and tend the various tanks and containers in which the basic materials are by chemical treatment transformed into a liquid. The liquid, which is called "viscose" when made by that process, is then pumped through filter presses to storage tanks and kept there a certain period of time before being transferred to the spinning machines.

Spinning-bath men or coagulating-bath men tend the tanks in which the mix for the acid bath is made and by operating valves control the flow of the mix from the tanks to the shallow bath or trough that extends along the entire length of the equipment or so-called machine used in spinning rayon thread or yarn.

Spinners are in charge of the equipment used in spinning rayon yarn. The equipment consists of spinnerets (sometimes called jets), acid bath, bobbins, spools, or buckets, wheels, tubes, etc. Spinners catch together the ends of the filaments from each spinneret as they pass through the acid bath, bring them together to form a thread, start the thread on a bobbin or spool, or into a bucket. They remove full bobbins, spools, or buckets, and replace them with empties as needed. The yarn from the bucket is called "cakes."

Machine cleaners clean such parts of the spinning equipment, except spinnerets, as need to be cleaned, using a power hose, hot water, and necessary cleaning material.

Spinneret cleaners wash spinnerets in an acid bath, examine the small holes or openings for defects, blow with compressed air from the holes in the spinneret the gummed substance that forms during the passage of the viscose or other solution through them.

Filter cleaners remove the core or center of the filter from its casing; take off the gummed cloth wrapper of the core and rewrap it with a clean cloth; and take out layers of filter cloth strainers that need cleaning and replace them with clean ones. The filter is sometimes called "candle filter" because of its shape.

Bobbin and cake washers.—In plants in which the bobbin or spool method of spinning is used, washers place wound bobbins or cakes of yarn on rods and hang them on wash racks or in mechanical washing machines, where by spraying, dipping, compressing, or other method the yarn is washed and desulphurized. In plants in which the bucket or box method of spinning is used the cakes are placed on rods and washed by passing them through a centrifugal wringer or laundry extractor before they go through the mechanical drier.

Cake wringers remove cakes from wash racks, place them on rods in the centrifugal wringer and secure them with bolts; after the wringing has been done they remove the cakes and place them on carriers or trucks to be delivered to the drier.

Bobbin and cake driers hang the rods on which the bobbins or cakes are placed on a slow-moving conveyor, take them from the conveyor after they have passed through a heated drier, and place them on carriers for transfer to the finishing room.

Cake inspectors examine the washed and dried cakes for broken yarn and loose ends and remove the excess of loose thread.

Pump testers check pumps after they have been adjusted by mechanics. The test is made by drawing off a measure of viscose or other solution through the spinneret, making a record of the time required to run the measure, and then weighing the measure to determine if the pumps have been adjusted to the proper speed to produce the desired denier or unit of weight of the yarn to be spun.

Spoolers place empty bobbins on spooling machines; start end of thread from bobbin or cake of dried yarn on empty spool, tie any broken threads, and remove spools from the machines after they have been wound.

Twisters or throwers place bobbins or spools on twisting or throwing machines; from bobbin or cake of yarn start end of thread on empty spool, tie knots in broken threads, and remove the empty bobbins and full spools.

Reelers and lacers start end of thread from bobbin or cake of yarn on reel on machine, tie knots in broken threads, remove the skeins from the reel when filled, and lace the skeins by running laces between strands of yarn at intervals to prevent tangling.

Winders of cones, quills, cops, or bobbins attach the end of the thread from spool or skein to empty cones, quills, cops, or bobbins on winding machine, tie broken threads, and remove the cones, etc., from the machine after the winding. The winding is generally on cones, but to meet the demand of the trade the yarn is sometimes wound on quills, cops, or bottle bobbins.

Skein washers and bleachers place skeins in mechanical washer and bleacher; remove them from the washing and bleaching machine; wrap them in cloth; pass them through a centrifugal wringer to the mechanical drier. In plants where mechanical washers and bleachers are not in use the skeins are hung in tubs of washing and bleaching solution.

Skein driers place skeins of yarn on rods; hang them on a slow-moving conveyor in heated drier; and remove them from the conveyor at the back of the drier. The skeins are then trucked to the finishing room.

Skein inspectors include reinspectors, tensile testers, sorters, and graders. They inspect, sort, and grade skeins of yarn before they are wrapped and packed for shipment.

Cone, quill, cop, and bobbin inspectors examine for broken threads and neat knotting and classify for packing.

Wrappers and packers wrap, bundle, and pack skeins, cones, quills, cops, and bobbins for shipping.

Truckers and handlers wait on or serve employees in other occupations by taking to and from them bobbins, spools, skeins, cones, etc. In some plants they are classed as service men.

Laborers do the various kinds of unskilled work, such as moving materials and general cleaning.

Other employees. This group includes wage earners in approximately 100 occupations in the industry other than those specified above. Each of the occupations in the group had too few workers to warrant tabulation as an occupation.

GENERAL TABLES

In addition to the text tables already shown, three general tables, which show the data in detail, are presented. In these tables data are shown by districts instead of by States to avoid presenting figures for one establishment.

District 1 includes 1 plant in Connecticut, 2 in Massachusetts, 1 in New Hampshire, and 1 in Rhode Island.

District 2 includes 1 plant in Delaware, 2 in New York, 2 in Ohio, and 1 in Pennsylvania.

District 3 includes 1 plant in Georgia, 1 in Maryland, 1 in North Carolina, 3 in Tennessee, and 4 in Virginia.

TABLE A.—Average number of days on which employees worked, average full time and actual hours and earnings per week, average earnings per hour, and per cent of full time worked, by occupation, sex, and district.

This table shows for each occupation and district all of the various averages which have been computed from the data collected. The presentation in this table in parallel columns of "average full-time hours per week" and "average hours actually worked in one week" is for the purpose of easy comparison of the average hours actually worked in one week with the hours that would have been worked in one week had all employees in the occupation worked no more nor less than full time. One shows the average full-time hours per week under normal conditions, while the other shows the average hours actually worked in one week by all employees in the occupation.

TABLE B.—Average and classified earnings per hour, 1930, by occupation, sex, and district.

TABLE C.—Average and classified full-time hours per week, 1930, by occupation, sex, and district.

TABLE A.—Average number of days on which employees worked, average full-time and actual hours and earnings per week, average earnings per hour, and per cent of full time worked, 1930, by occupation, sex, and district

[District 1: Connecticut, Massachusetts, New Hampshire, and Rhode Island; District 2: Delaware, New York, Ohio, and Pennsylvania; District 3: Georgia, Maryland, North Carolina, Tennessee, and Virginia]

Occupation, sex, and district	Number of establishments	Number of wage earners	Average number of days worked in 1 week	Average full-time hours per week	Average hours actually worked in 1 week	Per cent of full-time hours actually worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Chemical-building workers, male:									
District 1.....	5	99	6.1	50.4	51.0	101.2	\$0.522	\$26.31	\$26.58
District 2.....	6	414	5.6	54.9	47.7	86.9	.672	36.89	32.11
District 3.....	10	1,269	5.9	53.4	48.3	90.4	.481	25.69	23.24
Total.....	21	1,782	5.8	53.6	48.3	90.1	.527	28.25	25.48
Spinning-bath men, male:									
District 1.....	5	15	5.8	51.6	48.2	93.4	.569	29.36	27.44
District 2.....	6	63	5.5	50.3	44.5	88.5	.749	37.67	33.36
District 3.....	10	151	5.8	50.8	48.2	94.9	.527	26.77	25.40
Total.....	21	229	5.7	50.7	47.2	93.1	.588	29.81	27.72
Spinners, male:									
District 1.....	5	195	5.5	49.7	44.7	89.9	.540	26.84	24.13
District 2.....	6	1,057	5.5	50.1	44.0	87.8	.737	36.92	32.43
District 3.....	10	3,107	5.2	49.8	41.8	83.9	.504	25.10	21.05
Total.....	21	4,359	5.3	49.9	42.4	85.0	.564	28.14	23.95
Spinners, female: District 3.....	2	163	5.8	48.0	47.8	99.6	.310	14.88	14.81
Machine cleaners, male:									
District 1.....	3	9	6.2	49.3	55.4	112.4	.493	24.30	27.33
District 2.....	5	47	5.9	48.8	45.3	92.8	.586	28.60	26.31
District 3.....	8	164	5.7	52.4	48.4	92.4	.423	22.17	20.45
Total.....	16	220	5.8	51.5	48.0	93.2	.458	23.59	21.99
Spinneret cleaners, male:									
District 1.....	5	15	6.0	51.2	48.3	94.3	.513	26.27	24.75
District 2.....	6	58	5.8	50.5	49.5	98.0	.700	35.35	34.63
District 3.....	8	88	6.0	52.0	50.0	96.2	.467	24.28	23.33
Total.....	19	161	5.9	51.4	49.6	96.5	.555	28.53	27.53
Spinneret cleaners, female: District 3.....	5	34	5.9	50.9	50.0	98.2	.298	15.17	14.87
Filter cleaners, male:									
District 1.....	5	14	5.8	49.7	48.6	97.8	.468	23.26	22.71
District 2.....	6	41	5.5	50.8	48.9	96.3	.624	31.70	30.52
District 3.....	7	79	5.9	54.6	51.0	93.4	.373	20.37	19.02
Total.....	18	134	5.8	52.9	50.1	94.7	.457	24.18	22.93
Filter cleaners, female:									
District 2.....	2	7	6.0	48.1	44.4	92.3	.403	19.38	17.86
District 3.....	3	21	5.6	53.0	49.4	93.2	.286	15.16	14.13
Total.....	5	28	5.7	51.7	48.1	93.0	.313	16.18	15.06
Bobbin washers, male:									
District 1.....	2	55	6.1	49.9	48.3	96.8	.531	26.50	25.67
District 2.....	2	104	5.7	49.8	53.4	107.2	.617	30.73	32.95
District 3.....	5	284	5.9	50.1	47.9	95.6	.386	19.34	18.48
Total.....	9	443	5.9	50.0	49.2	98.4	.463	23.15	22.77
Cake washers, male:									
Districts 1 and 3.....	2	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
District 2.....	4	81	6.0	52.0	52.0	100.0	.577	30.00	30.00
Total.....	6	164	6.2	54.0	52.9	98.0	.487	26.30	25.77

¹Data included in total.

TABLE A.—Average number of days on which employees worked, average full-time and actual hours and earnings per week, average earnings per hour, and per cent of full time worked, 1930, by occupation, sex, and district—Continued

Occupation, sex, and district	Number of establishments	Number of wage earners	Average number of days worked in 1 week	Average full-time hours per week	Average hours actually worked in 1 week	Per cent of full-time hours actually worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Cake wringers, male:									
District 2.....	2	7	6.1	51.4	49.7	96.7	\$0.636	\$32.69	\$31.62
District 3.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total.....	3	82	6.3	55.6	52.4	94.2	.449	24.96	23.53
Bobbin driers, male:									
District 1.....	2	8	6.5	52.0	52.0	100.0	.505	26.25	26.25
District 2.....	2	16	6.3	56.0	55.5	99.1	.639	35.78	35.48
District 3.....	5	53	6.0	51.0	48.3	94.7	.379	19.33	18.29
Total.....	9	77	6.1	52.2	50.2	96.2	.452	23.59	22.99
Cake driers, male:									
Districts 1 and 3.....	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
District 2.....	3	15	6.3	54.4	52.7	96.9	.560	30.46	29.53
Total.....	5	34	6.1	55.3	50.2	90.8	.490	27.10	24.64
Cake inspectors, male:									
Districts 1, 2, and 3.....	3	34	6.4	55.3	51.8	93.7	.526	29.09	27.26
Cake inspectors, female:									
Districts 1 and 3.....	2	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
District 2.....	3	14	4.6	48.6	39.2	80.7	.380	18.47	14.92
Total.....	5	111	5.5	49.8	45.1	90.6	.346	17.23	15.61
Pump testers, male:									
District 1.....	5	14	5.9	50.7	50.6	99.8	.553	28.04	27.96
District 2.....	6	27	5.9	50.5	50.8	100.6	.661	33.38	33.56
District 3.....	10	106	5.6	53.8	52.0	96.7	.455	24.48	23.66
Total.....	21	147	5.7	52.9	51.7	97.7	.501	26.50	25.89
Spoolers, female:									
District 2.....	2	337	5.3	46.6	38.1	81.8	.551	25.68	20.99
District 3.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Total.....	3	523	5.5	45.6	39.2	86.0	.508	23.16	19.95
Twisters and throwers, male:									
District 2.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
District 3.....	5	684	5.5	49.8	46.1	92.6	.374	18.63	17.26
Total.....	6	722	5.5	49.7	46.1	92.8	.385	19.13	17.73
Twisters and throwers, female:									
District 1.....	2	113	5.6	50.8	47.4	93.3	.336	17.07	15.94
District 2.....	2	353	5.2	48.5	43.8	90.3	.465	22.55	20.35
District 3.....	8	1,368	5.5	49.9	45.8	91.8	.282	14.07	12.93
Total.....	12	1,834	5.4	49.7	45.5	91.5	.319	15.85	14.54
Reelers and lacers, female:									
District 1.....	5	374	5.2	50.2	44.9	89.4	.384	19.28	17.24
District 2.....	6	1,279	4.9	47.2	37.9	80.3	.446	21.05	16.91
District 3.....	9	2,983	4.9	50.4	40.5	80.4	.308	15.52	12.51
Total.....	20	4,636	4.9	49.5	40.2	81.2	.351	17.37	14.10
Winders, cone, quill, cop, or bobbin, male:									
District 2.....	2	77	4.6	48.0	37.6	78.3	.594	28.51	22.35
District 3.....	8	936	5.2	50.2	43.2	86.1	.336	16.87	14.52
Total.....	10	1,013	5.2	50.0	42.7	85.4	.354	17.70	15.11

†Data included in total.

TABLE A.—Average number of days on which employees worked, average full-time and actual hours and earnings per week, average earnings per hour, and per cent of full time worked, 1930, by occupation, sex, and district—Continued

Occupation, sex, and district	Number of establishments	Number of wage earners	Average number of days worked in 1 week	Average full-time hours per week	Average hours actually worked in 1 week	Per cent of full-time hours actually worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Winders, cone, quill, cop, or bobbin, female:									
District 1.....	4	123	5.2	53.2	46.1	86.7	\$0.326	\$17.34	\$15.05
District 2.....	5	628	5.2	48.3	40.8	84.5	.423	20.43	17.27
District 3.....	8	1,651	5.5	47.8	45.8	95.8	.301	14.39	13.80
Total.....	17	2,402	5.4	48.2	44.5	92.3	.332	16.00	14.78
Skein washers and bleachers, male:									
District 1.....	5	90	6.1	50.7	56.2	110.8	.423	21.45	23.75
District 2.....	6	168	5.4	51.2	47.1	92.0	.504	30.41	27.94
District 3.....	8	607	5.3	51.8	45.2	87.3	.469	24.29	21.22
Total.....	19	865	5.4	51.5	46.7	90.7	.488	25.13	22.79
Skein driers, male:									
District 1.....	4	10	5.6	51.9	55.8	107.5	.401	20.81	22.39
District 2.....	4	44	5.2	49.0	43.0	87.8	.540	26.46	23.25
District 3.....	7	127	5.5	49.3	46.0	93.3	.429	21.15	19.74
Total.....	15	181	5.4	49.4	45.8	92.7	.453	22.38	20.74
Skein driers, female:									
District 1.....	3	11	4.0	48.5	32.5	67.0	.359	17.41	11.68
District 2.....	4	67	4.5	48.0	33.5	69.8	.392	18.82	13.14
District 3.....	5	222	4.7	48.9	38.9	79.6	.350	17.12	13.63
Total.....	12	300	4.6	48.7	37.5	77.0	.359	17.48	13.45
Skein inspectors, female:									
District 1.....	5	146	5.0	50.0	43.3	86.6	.340	17.00	14.72
District 2.....	6	512	5.1	47.0	39.4	83.8	.426	20.02	16.78
District 3.....	9	1,611	5.1	49.4	41.4	83.8	.317	15.66	13.14
Total.....	20	2,269	5.1	48.9	41.1	84.0	.342	16.72	14.06
Cone inspectors, female:									
District 1.....	4	22	5.1	52.2	45.3	86.8	.313	16.34	14.17
District 2.....	5	62	5.6	46.7	42.6	91.2	.430	20.08	18.29
District 3.....	9	136	5.7	48.3	48.7	100.8	.318	15.36	15.47
Total.....	18	220	5.6	48.3	46.6	96.5	.346	16.71	16.13
Wrappers and packers, male:									
District 1.....	2	7	5.6	51.4	50.0	97.3	.389	19.99	19.49
District 2.....	5	72	5.7	47.5	48.3	101.7	.607	28.83	29.29
District 3.....	7	127	5.5	51.8	46.9	90.5	.434	22.48	20.34
Total.....	14	206	5.6	50.3	47.5	94.4	.494	24.85	23.44
Wrappers and packers, female:									
District 1.....	5	22	5.0	50.8	44.0	86.6	.353	17.93	15.53
District 2.....	6	105	4.6	47.9	36.2	75.6	.395	18.92	14.31
District 3.....	9	216	5.1	49.5	42.3	85.5	.313	15.49	13.24
Total.....	20	343	4.9	49.1	40.5	82.5	.338	16.60	13.72
Truckers and handlers, male:									
District 1.....	5	51	5.6	51.1	51.0	99.8	.339	17.32	17.28
District 2.....	6	300	5.4	47.9	43.6	91.0	.479	22.94	20.87
District 3.....	10	1,058	5.5	51.3	46.9	91.4	.342	17.54	16.04
Total.....	21	1,409	5.5	50.5	46.3	91.7	.369	18.63	17.11
Truckers and handlers, female:									
District 1.....	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
District 2.....	4	12	5.0	48.2	40.7	84.4	.393	18.94	15.98
District 3.....	2	94	5.5	51.7	48.1	93.0	.224	11.58	10.81
Total.....	7	112	5.5	51.4	47.4	92.2	.244	12.54	11.57

¹Data included in total.

WAGES AND HOURS OF LABOR

TABLE A.—Average number of days on which employees worked, average full-time and actual hours and earnings per week, average earnings per hour, and per cent of full time worked, 1930, by occupation, sex, and district—Continued

Occupation, sex, and district	Number of establishments	Number of wage earners	Average number of days worked in 1 week	Average full-time hours per week	Average hours actually worked in 1 week	Per cent of full-time hours actually worked	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Laborers, male:									
District 1.....	5	46	6.0	50.7	55.4	109.3	\$0.466	\$23.63	\$25.81
District 2.....	6	237	5.6	48.5	48.4	99.8	.523	25.37	25.32
District 3.....	10	554	5.5	52.9	47.9	90.5	.332	17.56	15.88
Total.....	21	837	5.6	51.6	48.4	93.8	.394	20.33	19.10
Other employees, male:									
District 1.....	5	226	6.1	51.5	56.9	110.5	.550	28.79	31.81
District 2.....	6	1,548	5.8	49.0	48.3	98.6	.679	33.27	32.78
District 3.....	10	3,370	5.6	52.3	48.9	93.5	.499	26.10	24.41
Total.....	21	5,644	5.7	51.3	49.1	95.7	.550	28.22	27.00
Other employees, female:									
District 1.....	5	16	4.9	49.5	42.9	86.7	.362	17.92	15.54
District 2.....	6	106	5.4	47.7	44.3	92.9	.425	20.27	18.81
District 3.....	10	452	5.6	50.6	46.9	92.7	.302	15.23	14.13
Total.....	21	574	5.5	50.0	46.3	92.6	.325	16.25	15.08
All employees, male:									
District 1.....	5	861	5.9	50.7	51.7	102.0	.508	25.76	26.26
District 2.....	6	4,415	5.6	49.9	46.8	93.8	.657	32.78	30.75
District 3.....	10	13,467	5.5	51.5	46.3	89.9	.453	23.33	20.99
Total.....	21	18,743	5.6	51.1	46.7	91.4	.504	25.75	23.53
All employees, female:									
District 1.....	5	837	5.2	50.8	45.0	88.6	.357	18.14	16.04
District 2.....	6	3,482	5.1	47.5	39.4	82.9	.447	21.23	17.62
District 3.....	10	9,230	5.2	49.4	43.2	87.4	.307	15.17	13.26
Total.....	21	13,549	5.2	49.0	42.3	86.3	.344	16.86	14.55
All employees, both sexes:									
District 1.....	5	1,698	5.6	50.7	48.4	95.5	.439	22.26	21.22
District 2.....	6	7,897	5.4	48.9	43.5	89.0	.573	28.02	24.96
District 3.....	10	22,697	5.4	50.6	45.0	88.9	.396	20.04	17.84
Total.....	21	32,292	5.4	50.2	44.8	89.2	.441	22.14	19.76

TABLE B.—Average and classified earnings per hour, 1930, by occupation, sex, and district

[District 1: Connecticut, Massachusetts, New Hampshire, and Rhode Island; District 2: Delaware, New York, Ohio, and Pennsylvania; District 3: Georgia, Maryland, North Carolina, Tennessee, and Virginia]

Occupation, sex, and district	Number of establishments	Number of wage earners	Average earnings per hour	Number of employees whose earnings (in cents) per hour were—																					
				12, under 14	14, under 16	16, under 18	18, under 20	20, under 25	25, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 55	55, under 60	60, under 65	65, under 70	70, under 75	75, under 80	80, under 85	85, under 90	90, under 95	95, under 100	100, under 110	110 and over
Chemical-building workers, male:																									
District 1.....	5	99	\$0.522								1	3	33	34	12	4	4	8							
District 2.....	6	414	.672									2	1	56	42	67	84	16	25	70	27	23	1		
District 3.....	10	1,269	.481				1	19	102	146	182	213	199	215	123	39	20	6	1	3					
Total.....	21	1,782	.527				1	19	102	147	187	247	289	269	194	127	44	31	71	30	23	1			
Spinning-bath men, male:																									
District 1.....	5	15	.569										2	4	4	2									
District 2.....	6	63	.749										1	3	4	4	9								
District 3.....	10	151	.527						12	7	25	15	13	4	40	32	3				29	11	2		
Total.....	21	229	.588						12	7	25	18	20	12	46	41	6				29	11	2		
Spinners, male:																									
District 1.....	5	195	.540								5	17	29	47	38	51	2	3							
District 2.....	6	1,057	.737									4	15	48	81	120	113	99	3	2	47	524	3		
District 3.....	10	3,107	.504						14	322	249	538	361	270	355	364	629	3	2						
Total.....	21	4,359	.564						14	322	254	559	405	365	474	535	744	105	6	49	524	3			
Spinners, female:																									
District 3.....	2	163	.310				1	98	29	31	3			1											
Machine cleaners, male:																									
District 1.....	3	9	.493								1			3	5										
District 2.....	5	47	.586									2	7	4	8	7	18								
District 3.....	8	164	.423						8	38	29	7	44	4	3	33	2								
Total.....	16	220	.458						8	38	31	9	54	9	11	40	20								
Spinneret cleaners, male:																									
District 1.....	5	15	.513							1	1	3			1	2	6	1							
District 2.....	6	58	.700												7	11	15	1							
District 3.....	8	88	.467				1	8	5	5	22	15	12		6	12	2				1	3	20		
Total.....	19	161	.555				1	8	6	6	25	15	13	9	23	28	3	1			3	20			

RAYON, ETC., YARN MANUFACTURING, 1930

TABLE B.—Average and classified earnings per hour, 1930, by occupation, sex, and district—Continued

Occupation, sex, and district	Number of establishments	Number of wage earners	Average earnings per hour	Number of employees whose earnings (in cents) per hour were—																					
				12, under 14	14, under 16	16, under 18	18, under 20	20, under 25	25, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 55	55, under 60	60, under 65	65, under 70	70, under 75	75, under 80	80, under 85	85, under 90	90, under 95	95, under 100	100, under 110	110 and over
Spinneret cleaners, female:																									
District 3.....	5	34	\$0.298					2	14	15	1	1	1												
Filter cleaners, male:																									
District 1.....	5	14	.468									3	6	4	1										
District 2.....	6	41	.624											5	10	6	3	16	1						
District 3.....	7	79	.378					28	6	18	4	7	14	1	1										
Total.....	18	134	.457					28	6	18	7	13	23	12	7	3	16	1							
Filter cleaners, female:																									
District 2.....	2	7	.403					1		6															
District 3.....	3	21	.286					11	9	1															
Total.....	5	28	.313					12	9	7															
Bobbin washers, male:																									
District 1.....	2	55	.531								7	13	19	2	6	7									
District 2.....	2	104	.617									2	5	18	52	26	1								
District 3.....	5	284	.386					7	77	70	76	50	4												
Total.....	9	443	.463					7	77	70	83	65	28	20	58	33	1	1							
Cake washers, male:																									
Districts 1 and 3 ¹	2	83	.403							1	47	30	5												
District 2.....	4	81	.577											21	25	26	9								
Total.....	6	164	.487							1	47	30	5	21	25	26	9								
Cake wringers, male:																									
Districts 2 and 3 ¹	3	82	.449							1	2	72		2	1	1		2	1						
Bobbin driers, male:																									
District 1.....	2	8	.505										4	1	2	1									
District 2.....	2	16	.639												2	5	9								
District 3.....	5	53	.379					1	16	14	16	6													
Total.....	9	77	.452					1	16	14	16	10	1	4	6	9									

TABLE B.—Average and classified earnings per hour, 1930, by occupation, sex, and district—Continued

Occupation, sex, and district	Number of establishments	Number of wage earners	Average earnings per hour	Number of employees whose earnings (in cents) per hour were—																					
				12, under 14	14, under 16	16, under 18	18, under 20	20, under 25	25, under 30	30, under 35	35, under 40	40, under 45	45, under 50	50, under 55	55, under 60	60, under 65	65, under 70	70, under 75	75, under 80	80, under 85	85, under 90	90, under 95	95, under 100	100, under 110	110 and over
Winders, cone, quill, cop, or bobbin, female:																									
District 1.....	4	123	\$0.326					1	38	57	19	8													
District 2.....	5	628	.423					1	63	95	109	125	80	89	34	19	9	4							
District 3.....	8	1,651	.301	3	11	17	88	200	657	230	220	120	58	30	14	2	1								
Total.....	17	2,402	.332	3	11	17	88	202	758	382	348	253	138	119	48	21	10	4							
Skein washers and bleachers, male:																									
District 1.....	5	90	.423								82	12	8	10	5	1	2								
District 2.....	6	168	.594								20	5	5	10	22	33	44	34							
District 3.....	8	607	.469					3	15	27	77	227	146	102	8	2									
Total.....	19	865	.488					3	15	79	109	240	166	129	42	48	34								
Skein driers, male.																									
District 1.....	4	10	.401							6	2	1	1												
District 2.....	4	44	.540								13	3	2	5	1	20									
District 3.....	7	127	.429					8	14	25	27	5	16	28	4										
Total.....	15	181	.453					8	14	31	42	9	19	33	5	20									
Skein driers, female:																									
District 1.....	3	11	.359					2	1	4	4														
District 2.....	4	87	.392					5	21	41	3														
District 3.....	5	222	.350				2	10	42	3	162	3													
Total.....	12	300	.359				2	10	49	4	187	48													
Skein inspectors, female:																									
District 1.....	5	146	.340					1	23	43	56	20	2	1											
District 2.....	6	512	.426					3	9	20	60	298	77	33	7	3	2								
District 3.....	9	1,611	.317			4	89	230	218	399	498	119	24	18	6	3	1	2							
Total.....	20	2,269	.342			4	89	234	250	462	614	437	103	52	13	6	3	2							
Cone inspectors, female:																									
District 1.....	4	22	.313					15	6	8	14	1													
District 2.....	5	62	.430					2	3	8	8	14	15	3	5	3	1								

TABLE C.—Average and classified full-time hours per week, 1930, by occupation, sex, and district

[District 1: Connecticut, Massachusetts, New Hampshire, and Rhode Island, District 2: Delaware, New York, Ohio, and Pennsylvania; District 3: Georgia, Maryland, North Carolina, Tennessee, and Virginia]

Occupation, sex, and district	Number of establishments	Number of wage earners	Average full-time hours per week	Number of employees whose full-time hours per week were—													
				43½ and under 44	44	44½	45	Over 45 and under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	55	56	Over 56 and under 60	60
Chemical-building workers, male:																	
District 1.....	5	99	50.4						68				4			27	
District 2.....	6	414	54.9					29	25				3			357	
District 3.....	10	1,269	53.4						400				16	26		826	1
Total.....	21	1,782	53.6					29	493				23	26	1,210		1
Spinning-bath men, male:																	
District 1.....	5	15	51.6						7				5			3	
District 2.....	6	63	50.3						45							18	
District 3.....	10	151	50.8						99							52	
Total.....	21	229	50.7						151				5			73	
Spinners, male:																	
District 1.....	5	195	49.7						154							41	
District 2.....	6	1,057	50.1					15	768							274	
District 3.....	10	3,107	49.8						2,391				10	1		705	
Total.....	21	4,359	49.9					15	3,313				10	1	1,020		
Spinners, female.																	
District 3.....	2	163	48.0						163								
Machine cleaners, male:																	
District 1.....	3	9	49.3						5		3		1				
District 2.....	5	47	48.8					25	17						3	2	
District 3.....	8	164	52.4						34	39			34	8	49		
Total.....	16	220	51.5					25	56	39	3		35	8	52	2	
Spinneret cleaners, male:																	
District 1.....	5	15	51.2						9						6		
District 2.....	6	58	50.5						40						18		

TABLE C.—Average and classified full-time hours per week, 1930, by occupation, sex, and district—Continued

Occupation, sex, and district	Number of establishments	Number of wage earners	Average full-time hours per week	Number of employees whose full-time hours per week were—													
				43½ and under 44	44	44½	45	Over 45 and under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	55	56	Over 56 and under 60	60
Cake inspectors, male:																	
Districts 1, 2, and 3 ¹	3	34	55.3						3							31	
Cake inspectors, female:																	
Districts 1 and 3 ¹	2	97	49.9						4		93						
District 2.....	3	14	48.6				2		2	10							
Total.....	5	111	49.8				2		6	10	93						
Pump testers, male:																	
District 1.....	5	14	50.7						5		4		5				
District 2.....	6	27	50.5						13	2						3	
District 3.....	10	106	53.8						1			9	49	18	8		
Total.....	21	147	52.9						19	2	4	39	54	18	11		
Spoolers, female:																	
Districts 2 and 3 ¹	3	523	45.6	186			152	185									
Twisters and throwers, male:																	
Districts 2 and 3 ¹	6	722	49.7						457	76			189				
Twisters and throwers, female:																	
District 1.....	2	113	50.8								89		24				
District 2.....	2	353	48.5				40			313							
District 3.....	8	1,368	49.9			270	152		217			292	239	198			
Total.....	12	1,834	49.7			270	192		217	313	89	292	263	198			
Reelers and lacers, female:																	
District 1.....	5	374	50.2						145		134		95				
District 2.....	6	1,279	47.2				381	610	110	178							
District 3.....	9	2,983	50.4				121		281	903	707	554		244		173	
Total.....	20	4,636	49.5				502	610	536	1,081	841	554	95	244		173	
Winders, cone, quill, cop, or bobbin, male:																	
District 2.....	2	77	48.0						77								

District 3.....	8	936	50.2					504	123		45	186	78				
Total.....	10	1,013	50.0					581	123		45	186	78				
Winders, cone, quill, cop, or bobbin, female:																	
District 1.....	4	123	53.2					5		17		101					
District 2.....	5	628	48.3			44		325	259								
District 3.....	8	1,651	47.8			598	99	178	453					177		141	
Total.....	17	2,402	48.2			598	143	178	783	259	17		101	177		141	
Skein washers and bleachers, male:																	
District 1.....	5	90	50.7					35		19	13	23					
District 2.....	6	168	51.2					78	28							62	
District 3.....	8	607	51.8					88	109	180	16			9	205		
Total.....	19	865	51.5					201	137	199	29	23		9	267		
Skein driers, male:																	
District 1.....	4	10	51.9					3			3	4					
District 2.....	4	44	49.0					27	14							3	
District 3.....	7	127	49.3					88	5	9	15					10	
Total.....	15	181	49.4					118	19	9	18	4				13	
Skein driers, female:																	
District 1.....	3	11	48.5					10				1					
District 2.....	4	67	48.0					4	8								
District 3.....	5	222	48.9					55	178	12	28			4			
Total.....	12	300	48.7					55	14	186	12	28		1	4		
Skein inspectors, female:																	
District 1.....	5	146	50.0					79		27		40					
District 2.....	6	512	47.0			189	245	29	49								
District 3.....	9	1,611	49.4			296		183	416	278	234			93	111		
Total.....	20	2,269	48.9			485	245	291	465	305	234	40		93	111		
Cone inspectors, female:																	
District 1.....	4	22	52.2					2		7		13					
District 2.....	5	62	46.7				29	22	3	8							
District 3.....	9	136	48.3			34	27		15	15	5			19	6		
Total.....	18	220	48.3			34	56	22	20	23	5	13		19	6		

¹ Shown together to avoid presenting data for 1 establishment alone.

TABLE C.—Average and classified full-time hours per week, 1930, by occupation, sex, and district—Continued

Occupation, sex, and district	Number of establishments	Number of wage earners	Average full-time hours per week	Number of employees whose full-time hours per week were—													
				43½ and under 44	44	44½	45	Over 45 and under 48	48	Over 48 and under 50	50	Over 50 and under 54	54	55	56	Over 56 and under 60	60
Wrappers and packers, male:																	
District 1	2	7	51.4						3				4				
District 2	5	72	47.5				12	50		6							
District 3	7	127	51.8						20		50		37	14		6	
Total	14	206	50.3				12	50	27	6	50		41	14		6	
Wrappers and packers, female:																	
District 1	5	22	50.8						7		7		8				
District 2	6	105	47.9				9	71	9	16							
District 3	9	216	49.5			18	23		3	85	31	15	15	26			
Total	20	343	49.1			18	32	71	19	101	38	15	8	15	26		
Truckers and handlers, male:																	
District 1	5	51	51.1						14		18		16		3		
District 2	6	300	47.9				79	41	114	47			1		18		
District 3	10	1,058	51.3	8	8		6		218	99	261	91	83	77	198	9	
Total	21	1,409	50.5	8	8		85	41	346	146	279	91	100	77	219	9	
Truckers and handlers, female:																	
Districts 1 and 2	5	18	50.1				2	4		6			6				
District 3	2	94	51.7								15	79					
Total	7	112	51.4				2	4		6	15	79	6				
Laborers, male:																	
District 1	5	46	50.7						10		23		13				
District 2	6	237	48.5					92	116	9		3	17				
District 3	10	554	52.9							151	82	15	82	44	156	24	
Total	21	837	51.6					92	126	160	105	18	112	44	156	24	

Other employees, male:																		
District 1	5	228	51.6					61	59	1	84		21					
District 2	6	1,548	49.0			35	577	609	65	60	104		90		8			
District 3	10	3,870	52.3		36			495	593	567	429	497	419	587	180	52	15	
Total	21	5,644	51.3		36	35	577	1,165	658	626	490	685	419	698	188	52	15	
Other employees, female:																		
District 1	5	16	49.5					10	3		3							
District 2	6	108	47.7			30	23	3	50									
District 3	10	452	50.6	3	47		4	18	30	125	145	16	63		1			
Total	21	574	50.0	3	47	34	23	31	80	128	145	19	63		1			

Shown together to avoid presenting data for 1 establishment alone

LIST OF BULLETINS OF THE BUREAU OF LABOR STATISTICS

The following is a list of all bulletins of the Bureau of Labor Statistics published since July, 1912, except that in the case of bulletins giving the results of periodic surveys of the bureau only the latest bulletin on any one subject is here listed.

A complete list of the reports and bulletins issued prior to July, 1912, as well as the bulletins published since that date, will be furnished on application. Bulletins marked thus () are out of print.*

Conciliation and arbitration (including strikes and lockouts).

- *No. 124. Conciliation and arbitration in the building trades of Greater New York. [1913.]
- *No. 133. Report of the industrial council of the British Board of Trade on its inquiry into industrial agreements. [1913.]
- No. 139. Michigan copper district strike. [1914.]
- *No. 144. Industrial court of the cloak, suit, and skirt industry of New York City. [1914.]
- *No. 145. Conciliation, arbitration, and sanitation in the dress and waist industry of New York City. [1914.]
- *No. 191. Collective bargaining in the anthracite-coal industry. [1916.]
- *No. 198. Collective agreements in the men's clothing industry. [1916.]
- No. 233. Operation of the industrial disputes investigation act of Canada. [1918.]
- No. 255. Joint industrial councils in Great Britain. [1919.]
- No. 283. History of the Shipbuilding Labor Adjustment Board, 1917 to 1919.
- No. 287. National War Labor Board: History of its formation, activities, etc. [1921.]
- *No. 303. Use of Federal power in settlement of railway labor disputes. [1922.]
- No. 341. Trade agreement in the silk-ribbon industry of New York City. [1923.]
- No. 402. Collective bargaining by actors. [1926.]
- No. 468. Trade agreements, 1927.
- No. 481. Joint industrial control in the book and job printing industry. [1928.]

Cooperation.

- No. 313. Consumers' cooperative societies in the United States in 1920.
- No. 314. Cooperative credit societies (credit unions) in America and in foreign countries. [1922.]
- No. 437. Cooperative movement in the United States in 1925 (other than agricultural).
- *No. 531. Consumers', credit, and productive cooperative societies, 1929.

Employment and unemployment.

- *No. 109. Statistics of unemployment and the work of employment offices in the United States. [1913.]
- *No. 172. Unemployment in New York City, N. Y. [1915.]
- *No. 183. Regularity of employment in the women's ready-to-wear garment industries. [1915.]
- *No. 195. Unemployment in the United States. [1916.]
- *No. 196. Proceedings of Employment Managers' Conference, held at Minneapolis, Minn., January 19 and 20, 1916.
- *No. 202. Proceedings of the conference of Employment Managers' Association of Boston, Mass., held May 10, 1916.
- *No. 206. The British system of labor exchanges. [1916.]
- *No. 227. Proceedings of Employment Managers' Conference, Philadelphia, Pa., April 2 and 3, 1917.
- *No. 235. Employment system of the Lake Carriers' Association. [1918.]
- *No. 241. Public employment offices in the United States. [1918.]
- *No. 247. Proceedings of Employment Managers' Conference, Rochester, N. Y., May 9-11, 1918.
- *No. 310. Industrial unemployment: A statistical study of its extent and causes. [1922.]
- No. 409. Unemployment in Columbus, Ohio, 1921 to 1925.
- No. 520. Social and economic character of unemployment in Philadelphia, April, 1929.
- No. 542. Report of the advisory committee on employment statistics. [1931.]
- No. 544. Unemployment benefit plans in the United States and unemployment insurance in foreign countries. [1931.]

Foreign labor laws.

- *No. 142. Administration of labor laws and factory inspection in certain European countries. [1914.]
- No. 494. Labor legislation of Uruguay. [1929.]
- No. 510. Labor legislation of Argentina. [1930.]
- No. 529. Workmen's compensation legislation of the Latin American countries. [1930.]

Housing.

- *No. 158. Government aid to home owning and housing of working people in foreign countries. [1914.]
- No. 263. Housing by employers in the United States. [1920.]
- No. 295. Building operations in representative cities in 1920.
- No. 645. Building permits in the principal cities of the United States in [1921 to] 1930.

Industrial accidents and hygiene.

- *No. 104. Lead poisoning in potteries, tile works, and porcelain-enameled sanitary ware factories [1912.]
- No. 120. Hygiene of painters' trade. [1913.]
- *No. 127. Dangers to workers from dusts and fumes, and methods of protection. [1913.]
- *No. 141. Lead poisoning in the smelting and refining of lead. [1914.]
- *No. 157. Industrial accident statistics. [1915.]
- *No. 165. Lead poisoning in the manufacture of storage batteries. [1914.]
- *No. 179. Industrial poisons used in the rubber industry. [1915.]
- No. 188. Report of British departmental committee on the danger in the use of lead in the painting of buildings. [1918.]
- *No. 201. Report of the committee on statistics and compensation insurance cost of the International Association of Industrial Accident Boards and Commissions. [1916.]
- *No. 209. Hygiene of the printing trades. [1917.]
- *No. 219. Industrial poisons used or produced in the manufacture of explosives. [1917.]
- No. 221. Hours, fatigue, and health in British munition factories. [1917.]
- No. 230. Industrial efficiency and fatigue in British munition factories. [1917.]

Industrial accidents and hygiene—Continued.

- *No. 231. Mortality from respiratory diseases in dusty trades (inorganic dusts). [1918.]
- *No. 234. The safety movement in the iron and steel industry, 1907 to 1917.
- No. 236. Effects of the air hammer on the hands of stonecutters. [1918.]
- No. 249. Industrial health and efficiency. Final report of British Health of Munition Workers' Committee. [1919.]
- *No. 251. Proventable death in the cotton-manufacturing industry. [1919.]
- No. 256. Accidents and accident prevention in machine building. [1919.]
- No. 267. Anthrax as an occupational disease. [1920.]
- No. 276. Standardization of industrial accident statistics. [1920.]
- *No. 280. Industrial poisoning in making coal-tar dyes and dye intermediates. [1921.]
- *No. 291. Carbon monoxide poisoning. [1921.]
- No. 293. The problem of dust phthisis in the granite-stone industry. [1922.]
- No. 298. Causes and prevention of accidents in the iron and steel industry, 1910-1919.
- No. 306. Occupation hazards and diagnostic signs: A guide to impairments to be looked for in hazardous occupations. [1922.]
- No. 392. Survey of hygienic conditions in the printing trades. [1925.]
- No. 405. Phosphorus necrosis in the manufacture of fireworks and in the preparation of phosphorus. [1926.]
- No. 427. Health survey of the printing trades, 1922 to 1925.
- No. 428. Proceedings of the Industrial Accident Prevention Conference, held at Washington, D. C., July 14-16, 1926.
- No. 460. A new test for industrial lead poisoning. [1928.]
- No. 466. Settlement for accidents to American seamen. [1928.]
- No. 488. Deaths from lead poisoning, 1925-1927.
- No. 490. Statistics of industrial accidents in the United States to the end of 1927.
- No. 507. Causes of death, by occupation. [1929.]

Industrial relations and labor conditions.

- No. 237. Industrial unrest in Great Britain. [1917.]
- No. 340. Chinese migrations, with special reference to labor conditions. [1923.]
- No. 349. Industrial relations in the West Coast lumber industry. [1923.]
- No. 361. Labor relations in the Fairmont (W. Va.) bituminous-coal field. [1924.]
- No. 380. Postwar labor conditions in Germany. [1925.]
- No. 383. Works council movement in Germany. [1925.]
- No. 384. Labor conditions in the shoe industry in Massachusetts, 1920-1924.
- No. 399. Labor relations in the lace and lace-curtain industries in the United States. [1925.]
- No. 534. Labor conditions in the Territory of Hawaii, 1929-1930.

Labor laws of the United States (including decisions of courts relating to labor).

- No. 211. Labor laws and their administration in the Pacific States. [1917.]
- No. 229. Wage-payment legislation in the United States. [1917.]
- No. 285. Minimum wage laws of the United States: Construction and operation. [1921.]
- No. 321. Labor laws that have been declared unconstitutional. [1922.]
- No. 322. Kansas Court of Industrial Relations. [1923.]
- No. 343. Laws providing for bureaus of labor statistics, etc. [1923.]
- No. 370. Labor laws of the United States with decisions of courts relating thereto. [1925.]
- No. 408. Laws relating to payment of wages. [1926.]
- No. 517. Decisions of courts and opinions affecting labor, 1927-1928.
- No. 528. Labor legislation, 1929.

Proceedings of annual conventions of the Association of Governmental Officials in Industry of the United States and Canada. (Name changed in 1928 from Association of Governmental Labor Officials of the United States and Canada.)

- *No. 266. Seventh, Seattle, Wash., July 12-15, 1920.
- No. 307. Eighth, New Orleans, La., May 2-6, 1921.
- *No. 323. Ninth, Harrisburg, Pa., May 22-26, 1922.
- *No. 352. Tenth, Richmond, Va., May 1-4, 1923.
- *No. 359. Eleventh, Chicago, Ill., May 19-23, 1924.
- *No. 411. Twelfth, Salt Lake City, Utah, August 13-15, 1925.
- *No. 429. Thirteenth, Columbus, Ohio, June 7-10, 1926.
- *No. 455. Fourteenth, Paterson, N. J., May 31 to June 3, 1927.
- *No. 480. Fifteenth, New Orleans, La., May 21-24, 1928.
- No. 508. Sixteenth, Toronto, Canada, June 4-7, 1929.
- No. 530. Seventeenth, Louisville, Ky., May 20-23, 1930.

Proceedings of annual meetings of the International Association of Industrial Accident Boards and Commissions.

- No. 210. Third, Columbus, Ohio, April 25-28, 1916.
- No. 248. Fourth, Boston, Mass., August 21-25, 1917.
- No. 264. Fifth, Madison, Wis., September 24-27, 1918.
- *No. 273. Sixth, Toronto, Canada, September 23-26, 1919.
- No. 281. Seventh, San Francisco, Calif., September 20-24, 1920.
- No. 304. Eighth, Chicago, Ill., September 19-23, 1921.
- No. 333. Ninth, Baltimore, Md., October 9-13, 1922.
- *No. 359. Tenth, St. Paul, Minn., September 24-26, 1923.
- No. 385. Eleventh, Halifax, Nova Scotia, August 26-28, 1924.
- No. 395. Index to proceedings, 1914-1924.
- No. 406. Twelfth, Salt Lake City, Utah, August 17-20, 1925.
- No. 432. Thirteenth, Hartford, Conn., September 14-17, 1926.
- *No. 456. Fourteenth, Atlanta, Ga., September 27-29, 1927.
- No. 485. Fifteenth, Paterson, N. J., September 11-14, 1928.
- No. 511. Sixteenth, Buffalo, N. Y., October 8-11, 1929.
- No. 536. Seventeenth, Wilmington, Del., September 22-26, 1930.

Proceedings of annual meetings of the International Association of Public Employment Services.

- No. 192. First, Chicago, December 19 and 20, 1913; second, Indianapolis, September 24 and 25, 1914; third, Detroit, July 1 and 2, 1915.
- *No. 220. Fourth, Buffalo, N. Y., July 20 and 21, 1916.
- No. 311. Ninth, Buffalo, N. Y., September 7-9, 1921.
- No. 337. Tenth, Washington, D. C., September 11-13, 1922.

Proceedings of annual meetings of the International Association of Public Employment Services—Con.

- No. 355. Eleventh, Toronto, Canada, September 4-7, 1923.
- No. 400. Twelfth, Chicago, Ill., May 19-23, 1924.
- No. 414. Thirteenth, Rochester, N. Y., September 15-17, 1925.
- No. 478. Fifteenth, Detroit, Mich., October 25-28, 1927.
- No. 501. Sixteenth, Cleveland, Ohio, September 18-21, 1928.
- No. 538. Seventeenth, Philadelphia, September 24-27, 1929; eighteenth, Toronto, Canada, September 9-12, 1930.

Productivity of labor.

- No. 356. Productivity costs in the common-brick industry. [1924.]
- No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
- No. 407. Labor cost of production and wages and hours of labor in the paper box-board industry. [1923.]
- *No. 412. Wages, hours, and productivity in the pottery industry, 1925.
- No. 441. Productivity of labor in the glass industry. [1927.]
- No. 474. Productivity of labor in merchant blast furnaces. [1928.]
- No. 475. Productivity of labor in newspaper printing. [1929.]

Retail prices and cost of living.

- *No. 121. Sugar prices, from refiner to consumer. [1913.]
- *No. 130. Wheat and flour prices, from farmer to consumer. [1913.]
- *No. 164. Butter prices, from producer to consumer. [1914.]
- No. 170. Foreign food prices as affected by the war. [1915.]
- No. 357. Cost of living in the United States. [1924.]
- No. 369. The use of cost-of-living figures in wage adjustments. [1925.]
- No. 495. Retail prices, 1890 to 1928.

Safety codes.

- *No. 331. Code of lighting: Factories, mills, and other work places.
- No. 336. Safety code for the protection of industrial workers in foundries.
- No. 350. Rules governing the approval of headlighting devices for motor vehicles.
- *No. 351. Safety code for the construction, care, and use of ladders.
- No. 375. Safety code for laundry machinery and operations.
- No. 382. Code of lighting school buildings.
- No. 410. Safety code for paper and pulp mills.
- *No. 430. Safety code for power presses and foot and hand presses.
- No. 433. Safety codes for the prevention of dust explosions.
- No. 447. Safety code for rubber mills and calenders.
- No. 451. Safety code for forging and hot-metal stamping.
- No. 463. Safety code for mechanical power-transmission apparatus—first revision.
- No. 509. Textile safety code.
- No. 512. Code for identification of gas-mask canisters.
- No. 519. Safety code for woodworking plants, as revised 1930.
- No. 527. Safety code for the use, care, and protection of abrasive wheels.

Vocational and workers' education.

- *No. 159. Short-unit courses for wage earners, and a factory school experiment. [1915.]
- *No. 162. Vocational education survey of Richmond, Va. [1915.]
- *No. 199. Vocational education survey of Minneapolis, Minn. [1917.]
- No. 271. Adult working-class education in Great Britain and the United States. [1920.]
- No. 459. Apprenticeship in building construction. [1928.]

Wages and hours of labor.

- *No. 146. Wages and regularity of employment and standardization of piece rates in the dress and waist industry of New York City. [1914.]
- *No. 147. Wages and regularity of employment in the cloak, suit, and skirt industry. [1914.]
- No. 161. Wages and hours of labor in the clothing and cigar industries, 1911 to 1913.
- No. 163. Wages and hours of labor in the building and repairing of steam railroad cars, 1907 to 1913.
- *No. 190. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1914.
- No. 204. Street-railway employment in the United States. [1917.]
- No. 218. Wages and hours of labor in the iron and steel industry, 1907 to 1915: With a glossary of occupations.
- No. 225. Wages and hours of labor in the lumber, millwork, and furniture industries, 1915.
- No. 265. Industrial survey in selected industries in the United States, 1919.
- No. 287. Wages and hours of labor in the petroleum industry, 1920.
- No. 356. Productivity costs in the common-brick industry. [1924.]
- No. 358. Wages and hours of labor in the automobile-tire industry, 1923.
- No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
- No. 365. Wages and hours of labor in the paper and pulp industry, 1923.
- No. 394. Wages and hours of labor in metalliferous mines, 1834.
- No. 407. Labor cost of production and wages and hours of labor in the paper box-board industry. [1926.]
- *No. 412. Wages, hours, and productivity in the pottery industry, 1925.
- No. 416. Hours and earnings in anthracite and bituminous coal mining, 1922 and 1924.
- No. 484. Wages and hours of labor of common street laborers, 1928.
- No. 497. Wages and hours of labor in the lumber industry in the United States, 1928.
- No. 498. Wages and hours of labor in the boot and shoe industry, 1910 to 1928.
- No. 499. History of wages in the United States from colonial times to 1928.
- No. 502. Wages and hours of labor in the motor-vehicle industry, 1928.
- No. 503. Wages and hours of labor in the men's clothing industry, 1911 to 1928.
- No. 504. Wages and hours of labor in the hosiery and underwear industries, 1907 to 1928.
- No. 513. Wages and hours of labor in the iron and steel industry, 1929.
- No. 514. Pennsylvania Railroad wage data. From Report of Joint Fact Finding Committee in wage negotiations in 1927.
- No. 516. Hours and earnings in bituminous-coal mining, 1929.
- No. 522. Wages and hours of labor in foundries and machine shops, 1929.
- No. 523. Hours and earnings in the manufacture of airplanes and aircraft engines, 1929.
- No. 525. Wages and hours of labor in the Portland cement industry, 1929.
- No. 526. Wages and hours of labor in the furniture industry, 1910 to 1929.
- No. 532. Wages and hours of labor in the cigarette manufacturing industry, 1930.

Wages and hours of labor—Continued.

- No. 533. Wages and hours of labor in woolen and worsted goods manufacturing, 1910 to 1930.
- No. 534. Labor conditions in the Territory of Hawaii, 1929-1930.
- No. 535. Wages and hours of labor in the slaughtering and meat-packing industry, 1929.
- No. 537. Wages and hours of labor in the dyeing and finishing of textiles, 1930.
- No. 539. Wages and hours of labor in cotton goods manufacturing, 1910 to 1930.
- No. 540. Union scales of wages and hours of labor, May 15, 1930.

Welfare work.

- *No. 123. Employers' welfare work. [1913.]
- No. 222. Welfare work in British munition factories. [1917.]
- *No. 250. Welfare work for employees in industrial establishments in the United States. [1919.]
- No. 458. Health and recreation activities in industrial establishments, 1926.

Wholesale prices.

- *No. 284. Index numbers of wholesale prices in the United States and foreign countries. [1921.]
- No. 453. Revised index numbers of wholesale prices, 1923 to July, 1927.
- No. 493. Wholesale prices, 1913 to 1923.
- No. 543. Wholesale prices, 1930.

Women and children in industry.

- No. 116. Hours, earnings, and duration of employment of wage-earning women in selected industries in the District of Columbia. [1913.]
- *No. 117. Prohibition of night work of young persons. [1913.]
- *No. 118. Ten-hour maximum working-day for women and young persons. [1913.]
- No. 119. Working hours of women in the pea canneries of Wisconsin. [1913.]
- *No. 122. Employment of women in power laundries in Milwaukee. [1913.]
- *No. 160. Hours, earnings, and conditions of labor of women in Indiana mercantile establishments and garment factories. [1914.]
- *No. 167. Minimum-wage legislation in the United States and foreign countries. [1915.]
- *No. 175. Summary of the report on condition of women and child wage earners in the United States. [1915.]
- *No. 176. Effect of minimum-wage determinations in Oregon. [1915.]
- *No. 180. The boot and shoe industry in Massachusetts as a vocation for women. [1915.]
- *No. 182. Unemployment among women in department and other retail stores of Boston, Mass. [1916.]
- No. 193. Dressmaking as a trade for women in Massachusetts. [1916.]
- No. 215. Industrial experience of trade-school girls in Massachusetts. [1917.]
- *No. 217. Effect of workmen's compensation laws in diminishing the necessity of industrial employment of women and children. [1918.]
- *No. 223. Employment of women and juveniles in Great Britain during the war. [1917.]
- No. 253. Women in the lead industries. [1919.]
- No. 467. Minimum wage legislation in various countries. [1928.]

Workmen's insurance and compensation (including laws relating thereto.)

- *No. 101. Care of tuberculous wage earners in Germany. [1912.]
- *No. 102. British national insurance act, 1911.
- No. 103. Sickness and accident insurance law in Switzerland. [1912.]
- No. 107. Law relating to insurance of salaried employees in Germany. [1913.]
- *No. 155. Compensation for accidents to employees of the United States. [1914.]
- *No. 212. Proceedings of the conference on social insurance called by the International Association of Industrial Accident Boards and Commissions. Washington, D. C., December 5-9, 1916.
- *No. 243. Workmen's compensation legislation in the United States and foreign countries, 1917 and 1918.
- No. 301. Comparison of workmen's compensation insurance and administration. [1922.]
- No. 312. National health insurance in Great Britain, 1911 to 1921.
- No. 379. Comparison of workmen's compensation laws of the United States as of January 1, 1925.
- No. 477. Public-service retirement systems, United States and Europe. [1929.]
- No. 496. Workmen's compensation legislation of the United States and Canada as of January 1, 1929 (With text of legislation enacted in 1927 and 1928.)
- No. 529. Workmen's compensation legislation of the Latin American countries. [1930.]

Miscellaneous series.

- *No. 174. Subject index of the publications of the United States Bureau of Labor Statistics up to May 1, 1915.
- No. 208. Profit sharing in the United States. [1916.]
- No. 242. Food situation in central Europe, 1917.
- No. 254. International labor legislation and the society of nations. [1919.]
- No. 265. Historical survey of international action affecting labor. [1920.]
- No. 282. Mutual relief associations among Government employees in Washington, D. C. [1921.]
- No. 519. The Bureau of Labor Statistics: Its history, activities, and organization. [1922.]
- No. 326. Methods of procuring and computing statistical information of the Bureau of Labor Statistics. [1923.]
- No. 342. International Seamen's Union of America: A study of its history and problems. [1923.]
- No. 346. Humanity in government. [1923.]
- No. 372. Convict labor in 1923.
- No. 386. Cost of American almshouses. [1925.]
- No. 398. Growth of legal-aid work in the United States. [1926.]
- No. 401. Family allowances in foreign countries. [1926.]
- No. 461. Labor organization in Chile. [1928.]
- No. 462. Park recreation areas in the United States. [1928.]
- *No. 465. Beneficial activities of American trade-unions. [1928.]
- No. 479. Activities and functions of a State department of labor. [1923.]
- No. 483. Conditions in the shoe industry in Haverhill, Mass., 1928.
- No. 489. Care of aged persons in United States. [1929.]
- No. 491. Handbook of labor statistics, 1929 edition.
- No. 505. Directory of homes for the aged in the United States. [1929.]
- No. 506. Handbook of American trade-unions, 1929 edition.
- No. 513. Personnel research agencies, 1930 edition.
- No. 541. Handbook of labor statistics, 1931 edition.