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WAGES AND HOURS OF LABOR SERIES

WAGES AND HOURS OF LABOR
IN THE IRON AND STEEL
INDUSTRY : 1907 TO 1922



APRIL, 1924

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(9) Sheet mills	159, 160
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WAGES AND HOURS OF LABOR IN THE IRON AND STEEL INDUSTRY: 1907 TO 1922.

INTRODUCTION AND SUMMARY.

Earnings per hour, customary hours of labor, and actual hours and earnings for one pay period in 1922, together with summary figures for preceding years taken from previous reports,¹ for 10 departments of the iron and steel industry in the United States are presented in this report.

These statistics may be taken as fairly representative of the industry, as they are based on a sufficient number of representative plants in each district to show conditions in their locality.

Statistics are presented in this report for employees in—

- Blast furnaces, 1907-1922.²
- Bessemer converters, 1907-1922.²
- Open-hearth furnaces, 1910-1922.²
- Puddling mills, 1914-1922.³
- Blooming mills, 1910-1922.²
- Plate mills, 1910-1922.²
- Standard rail mills, 1910-1922.³
- Bar mills, 1907-1922.³
- Sheet mills, 1910-1922.²
- Tin-plate mills, 1910-1922.³

The greater part of the data was obtained through personal visits of agents of this bureau to the several plants, the remainder being obtained from the plants through correspondence.

The figures for 1922 are based on actual pay-roll data for one pay period. The period selected for the survey was from October 1st to 15th, and the majority of the reports were for that time. In a few instances, when conditions in the plants in October were not representative, the reports were made for a normal period as near October as available. Care was exercised, however, in selecting another period, to obtain one which included the general pay increase to all employees effective in September just prior to this survey. The figures for the years 1907 to 1915 are in most cases for the second half of May; those for 1917 are for a pay period in September of that year; while those for 1919 are nearly all for a half-month pay period in the first three months of that year. The 1920 investigation covered the last half of October, and the figures for that year relate in practically all instances to that period.

¹ See, for years up to 1915, Bul. No. 218; for 1917, Monthly Labor Review for March, 1918; for 1919, Bul. No. 265, Industrial survey in selected industries in the United States 1919; and for 1920 Bul. No. 305.

² No data available for 1916, 1918, or 1921.

³ No data available for 1916, 1917, 1918, or 1921.

While wages in 1922 show a marked decrease from the earnings in 1920, the data collected during this survey do not reflect the still lower point to which earnings declined in 1921 and the first nine months of 1922. Reductions in the rates paid employees in this industry began early in 1921 and continued into the following year. However, owing to economic conditions, these reductions were followed by increases, some of which were made prior to this investigation, including one general increase of approximately 10 per cent in September, 1922. The general tables in this report refer to one specific period in each year and do not, therefore, in any way reflect month-to-month changes.

In the 1922 investigation agents were instructed, in all cases where it was necessary to obtain data for a different pay period, to adjust the working time of the period selected to conform in length to that of the first half of October, that is 15 days, including 2 Saturdays and 3 Sundays. In order to adjust all schedules to that basis, it was necessary in some cases entirely to rearrange the company's pay-roll data and to compute the hours and earnings for each individual separately for the period desired. This method was decided upon in order to eliminate, as far as possible, all theoretical computations.

The average earnings per hour in each occupation were obtained by dividing the total amount earned by the total hours actually worked, and where averages are shown for individual employees they have been derived by the same method. The earnings per hour shown in the tables include both the earnings of time workers and those of tonnage or piece workers. All earnings per hour are for individuals, as no contract work for groups of employees is included.

The full-time hours of labor per week shown in the tables in this report are the customary regular hours of work of individual employees under normal conditions in the establishment. The working time is the time on duty, including intervals of waiting for work—in other words, the time between the hour of reporting for duty and the hour of going off duty. The working time of individual employees is not always the working time of their occupation as a whole. Some plants which operate seven days per week make provision for laying off each employee one day a week. In such a plant the full-time hours per week of an employee working 12 hours a day is 72 hours. In all tables in this report, whether the number of positions have been used as the number of employees, as is the case for the years up to and including 1917, or the actual number of individual employees has been reported, as for the years 1919 to 1922, the full-time hours of the man in the position have been shown and not the hours of the position. The term "jobs" or "positions" used in this report is defined as the number of employees working the regular full time required to operate a plant under normal working conditions, with provision for two or three shifts or turns per day, but with no provision for relief of employees.

The full-time weekly earnings are the earnings per week of employees working their customary full time or the earnings on broken time reduced to equivalent earnings for a full week.

Five general statistical tables are presented in this report. Summary figures for preceding years are brought into comparison with figures for 1922 in Tables A and B, while Tables C, D, and E contain data for 1922 only. Probably the two most important of these

tables are Tables C and E, which show the earnings and customary working time of employees for 1922 in great detail, thus adding considerably to the completeness of the report. A statement and explanation of the data contained in each table is given on pages 15 to 18. All of these tables are published in parts, one part for each of the ten departments, each part being placed under the heading of the department to which it relates.

INDEX NUMBERS, BY DEPARTMENTS.

In the sections of this report relating to the several departments, the full-time weekly earnings, the full-time hours of labor per week, and the earnings per hour are shown for each of the principal productive occupations. These occupation figures have been consolidated and are presented in the form of index numbers for each department. The purpose of these indexes is to indicate the direction and extent of the change in labor conditions which have taken place from year to year. In the wage studies of this industry for the earlier years, data covering the principal productive occupations only were obtained, data for secondary productive and nonproductive labor not being collected. All occupations have been included in the wage investigations of 1914, 1915, 1920, and 1922, but the principal productive, or selected, occupations only have been used in computing index numbers for the departments for those years. This was done so that the data used for the several years, though not complete, would be strictly comparable.

Table 1 shows for each department separately index numbers for average full-time hours per week, earnings per hour, and full-time weekly earnings, computed from the data for the principal productive occupations. The index for each year is simply the per cent that the average for that year is of the average for 1913. The year 1913 is taken as the base as it was the last full year before the World War. For puddling mills 1914 is taken as the base, as data for this department were first obtained for that year. The years shown are those for which data are available.

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TABLE 1.—INDEX NUMBERS OF AVERAGE FULL-TIME HOURS PER WEEK, EARNINGS PER HOUR, AND FULL-TIME WEEKLY EARNINGS IN COMBINED SELECTED OCCUPATIONS IN THE SEVERAL DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, BY YEARS.

[1913=100, except for puddling mills, for which 1914=100.]

Department and year.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Department and year.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.
Blast furnaces:¹				Plate mills:²			
1907.....	103	88	91	1910.....	99	89	88
1908.....	101	85	86	1911.....	98	87	85
1909.....	102	83	85	1912.....	100	92	91
1910.....	102	87	90	1913.....	100	100	100
1911.....	102	89	90	1914.....	99	101	100
1912.....	99	92	90	1915.....	99	107	106
1913.....	100	100	100	1917.....	100	156	156
1914.....	97	101	97	1919.....	102	233	237
1915.....	97	101	97	1920.....	99	267	265
1917.....	98	156	152	1922.....	95	186	175
1919.....	100	250	248	Standard rail mills:³			
1920.....	93	283	258	1910.....	104	90	92
1922.....	93	191	176	1911.....	100	89	88
Bessemer converters:¹				1912.....	100	89	90
1907.....	102	85	86	1913.....	100	100	100
1908.....	98	79	79	1914.....	99	99	98
1909.....	102	82	84	1915.....	100	97	96
1910.....	103	86	88	1919.....	96	221	215
1911.....	101	82	84	1920.....	89	256	255
1912.....	101	90	90	1922.....	86	196	171
1913.....	100	100	100	Bar mills:³			
1914.....	98	90	90	1907.....	106	94	99
1915.....	98	94	94	1908.....	106	84	89
1917.....	98	151	149	1909.....	107	86	91
1919.....	95	208	218	1910.....	104	95	99
1920.....	99	241	254	1911.....	106	90	93
1922.....	98	170	176	1912.....	103	90	93
Open-hearth furnaces:²				1913.....	100	100	100
1910.....	99	89	86	1914.....	100	96	97
1911.....	96	89	85	1915.....	100	98	98
1912.....	98	92	91	1919.....	103	214	221
1913.....	100	100	100	1920.....	99	252	253
1914.....	97	100	97	1922.....	98	173	171
1915.....	92	104	96	Sheet mills:³			
1917.....	99	152	150	1910.....	102	84	85
1919.....	98	239	234	1911.....	102	91	92
1920.....	89	282	253	1912.....	101	93	94
1922.....	93	202	188	1913.....	100	100	100
Puddling mills:¹				1914.....	100	101	101
1914.....	100	100	100	1915.....	101	92	92
1915.....	98	96	94	1917.....	104	178	183
1919.....	98	269	260	1919.....	99	198	195
1920.....	103	279	295	1920.....	100	229	240
1922.....	96	155	154	1922.....	101	147	154
Blooming mills:³				Tin-plate mills:⁴			
1910.....	102	81	83	1910.....	98	88	87
1911.....	101	82	84	1911.....	99	98	97
1912.....	101	87	88	1912.....	99	99	98
1913.....	100	100	100	1913.....	100	100	100
1914.....	97	102	98	1914.....	100	102	102
1915.....	97	104	100	1915.....	100	102	101
1917.....	100	133	131	1919.....	97	220	217
1919.....	96	220	217	1920.....	95	252	253
1920.....	91	233	220	1922.....	94	175	171
1922.....	95	169	166				

¹ This section of the table was published in the Monthly Labor Review for May, 1923.
² This section of the table was published in the Monthly Labor Review for June, 1923.
³ This section of the table was published in the Monthly Labor Review for April, 1923.
⁴ This section of the table was published in the Monthly Labor Review for March, 1923.

In addition to the index numbers in the above table, percentages have been computed showing the increase or decrease in earnings per hour for employees in all occupations and for those in selected occupations combined. Data for all occupations were obtained for the first time in 1914, and Table 2 shows the per cent of increase or decrease in each separate department in 1922 as compared with 1914 and 1920. No information was collected in 1921, so that 1920 is the latest year available for comparison. The differences between the increases or decreases in the "selected occupations" and those in "all occupations" are due mainly to the variations in the proportion of skilled and unskilled labor in the two groups.

TABLE 2.—PER CENT OF INCREASE OR DECREASE IN EARNINGS PER HOUR IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS IN THE IRON AND STEEL INDUSTRY 1922 AS COMPARED WITH 1914 AND 1920, BY DEPARTMENTS.

Department.	Per cent of increase (+) or decrease (-) in—			
	Selected occupations.		All occupations.	
	1922 as compared with 1914.	1922 as compared with 1920.	1922 as compared with 1914.	1922 as compared with 1920.
Blast furnaces.....	+90	-32	+93	-30
Bessemer converters.....	+90	-29	+84	-31
Open-hearth furnaces.....	+102	-28	+103	-28
Puddling mills.....	+55	-44	+51	-44
Blooming mills.....	+67	-27	+75	-28
Plate mills.....	+84	-30	+84	-29
Standard rail mills.....	+98	-23	+87	-26
Bar mills.....	+79	-31	+75	-32
Sheet mills.....	+46	-36	+42	-33
Tin-plate mills.....	+72	-31	+53	-32

FULL-TIME WORKING DAYS PER WEEK.

Table 3 shows for the several years a percentage distribution of employees in each department according to their customary number of turns per week. The figures for all years preceding 1919 are based on the number of jobs or positions required under normal conditions to operate a plant or such units of it as were operating, while those for 1919, 1920, and 1922 are based on the number of men actually appearing on the pay rolls. Figures are presented for employees working in "selected occupations" and also for those working in "all occupations" of a department.

6 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE 3.—PER CENT OF EMPLOYEES IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS IN EACH DEPARTMENT WORKING EACH SPECIFIED NUMBER OF DAYS PER WEEK, BY YEARS.

Department.	Year.	Number of plants.	Per cent of employees whose customary working time per week was—											
			5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	5 days, 6 days, and 7 days in rotation.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	
BLAST FURNACES.														
Selected occupations.	1907	20						3					97	
	1908	20						5					95	
	1909	20						3					97	
	1910	34						5					95	
	1911	35						11		(1)			89	
	1912	36						18		(1)			82	
	1913	35						19					81	
	1914	38						37		5			58	
	1915	38						37		4			59	
	1917	18						44		7			49	
	1919	24						10		10			80	
	1920	28						21		25			54	
	1922	32						57		12			31	
All occupations.....	1914	38						42		5		(1)	53	
	1915	38						42		4		(1)	54	
	1920	28						29		17			54	
	1922	32						57		14			29	
BESSEMER CONVERTERS.														
Selected occupations.	1907	9						61		13		1	24	
	1908	9						69		10		2	19	
	1909	9						62		14		1	22	
	1910	10						53		4		5	32	
	1911	10						77		6		1	15	
	1912	10						69		13		1	16	
	1913	10						51		10		5	11	
	1914	12						80		2		5	12	
	1915	12						80		2		4	1	
	1917	8						35		9		1	5	
	1919	11						79		11		5	5	
	1920	11						64		7		5	23	
	1922	11						83		1		6	6	
All occupations.....	1914	12						80		3		3	(1)	13
	1915	12						80		3		3	(1)	14
	1920	11						59		10		3	2	26
	1922	11						81		2		4	3	10
OPEN-HEARTH FURNACES.														
Selected occupations.	1910	17		6				34	1	28				32
	1911	17		4				46	1	32		(1)		18
	1912	17		2				33		36		1	(1)	29
	1913	17		2				28		33		2	(1)	34
	1914	22						34		34		(1)	(1)	31
	1915	22						33		35		(1)		32
	1917	13		5				46		22		(1)		27
	1919	17						26		46				28
	1920	19		(1)				25		42			3	30
	1922	22						53		17		5	2	23
All occupations.....	1914	22						39		26		(1)	(1)	34
	1915	22	(1)	(1)				39		27		(1)	(1)	34
	1920	19		(1)				27	(1)	37			3	33
	1922	22	(1)					50		16		4	2	27
PUDDLING MILLS.														
Selected occupations.	1914	20	13	66	8			12		(1)				(1)
	1915	29	25	52	12			11		(1)				(1)
	1919	12	(1)	65	23			13		(1)				(1)
	1920	15	(1)	65	12			22		(1)				(1)
	1922	13	18	49	17			15		(1)				(1)
All occupations.....	1914	29	13	63	8			15		1				1
	1915	29	24	50	11			13		1				1
	1920	15	(1)	60	13			26		(1)				1
	1922	13	17	47	15			19		(1)				2

¹ Less than 1 per cent.

TABLE 3.—PER CENT OF EMPLOYEES IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS IN EACH DEPARTMENT WORKING EACH SPECIFIED NUMBER OF DAYS PER WEEK, BY YEARS—Continued.

Department.	Year.	Number of plants.	Per cent of employees whose customary working time per week was—									
			5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	
			5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	
BLOOMING MILLS.												
Selected occupations.	1910	19		7			66		10			18
	1911	19	(1)	6			64		15			16
	1912	19	(1)	5			64		15			16
	1913	19		5			63		15		7	11
	1914	23	3	2			76		8		6	5
	1915	23	3	1			73		10		7	5
	1917	12					71		22		6	1
	1919	19					64		11		12	12
	1920	20	2	1			63		19		4	11
	1922	24		6			33		22		6	11
All occupations.....	1914	23	2	2			74		7		3	(1) 11
	1915	23	2	1			73		9		3	11
	1920	20	1	(1)			67		14		2	15
	1922	24	(1)	5			56		17		3	18
PLATE MILLS.												
Selected occupations.	1910	11		13			82		1			5
	1911	11	3	35			57		(1)			5
	1912	11	2	33			57		1			8
	1913	11		37			54		2			7
	1914	13		43			49		5			3
	1915	13	(1)	46			46		4			3
	1917	7		23			77					(1) 2
	1919	11		11			85		1			(1) 2
	1920	11		20			79		(1)			(1) 4
	1922	12		28			66		3			4
All occupations.....	1914	13		34			57		3			(1) 6
	1915	13	(1)	35			55		3			(1) 6
	1920	11		18			78		1			3
	1922	12	(1)	28			60		3			9
STANDARD RAIL MILLS.												
Selected occupations.	1910	6					68		1		2	30
	1911	7					91		5		2	3
	1912	7					90		6		2	2
	1913	7					97		1		(1)	2
	1914	7		8		1	90					1
	1915	7		6		2	91		1			2
	1919	5					100		(1)			
	1920	4					98		2			1
	1922	4					99		(1)		1	1
All occupations.....	1914	7		7		1	88		1			4
	1915	7		5		1	88		3			5
	1920	4		18			92		1		1	4
	1922	4					86		2		1	11
BAR MILLS.												
Selected occupations.	1907	15	2	52	2	3	39	1	2			1
	1908	15	3	49	2	2	42	1	1			1
	1909	15	1	48	2	2	43	(1)	2			2
	1910	25	4	30	1	1	60	(1)	1			3
	1911	26	1	43	1	1	53	(1)	1			(1) 1
	1912	26	1	48	1	1	47	(1)	1		(1)	(1) 1
	1913	44	7	48	2	1	35	(1)	1		5	(1) 1
	1914	57	5	53	2	1	32	(1)	1		5	(1) 1
	1915	57	5	54	2	1	38	(1)	(1)		(1)	(1) 1
	1919	23	7	42			48	(1)	1			1
	1920	25	4	36	6	4	40	(1)	1		9	(1) 1
	1922	25	1	38	2	4	42	(1)	1		10	(1) 1
All occupations.....	1914	57	6	47	2	1	38	(1)	1		4	(1) 1
	1915	57	6	48	1	1	43	(1)	1		(1)	1
	1920	25	3	33	4	3	46	(1)	3		7	1
	1922	25	1	35	2	3	47	(1)	2		7	(1) 1

¹ Less than 1 per cent.

8 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE 3.—PER CENT OF EMPLOYEES IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS IN EACH DEPARTMENT WORKING EACH SPECIFIED NUMBER OF DAYS PER WEEK, BY YEARS—Concluded.

Department.	Year.	Number of plants.	Per cent of employees whose customary working time per week was—										
			5 days	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days	5 days and 7 days alternately.	6 days and 7 days alternately.	5 days, 6 days, and 7 days in rotation.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days in rotation.	7 days
SHEET MILLS.													
Selected occupations.	1910	9	(1)	2	81	.....	16	.....	.....	.....	.....	.....	1
	1911	9	(1)	1	84	.....	14	.....	.....	.....	.....	.....	1
	1912	9	(1)	2	84	.....	14	.....	(1)	.....	.....	.....	1
	1913	13	1	(1)	81	.....	6	11	.....	.....	.....	.....	(1)
	1914	15	(1)	(1)	83	.....	5	11	.....	(1)	.....	.....	1
	1915	15	(1)	1	80	.....	6	11	.....	(1)	.....	.....	1
	1917	8	.....	2	49	.....	31	18	.....	.....	.....	.....	.....
	1919	11	1	(1)	68	.....	24	7	.....	.....	.....	.....	.....
	1920	13	(1)	1	63	.....	20	16	.....	.....	.....	.....	1
	1922	14	(1)	1	63	.....	18	16	.....	(1)	.....	.....	1
All occupations.....	1914	15	(1)	2	58	.....	3	32	.....	1	.....	.....	4
	1915	15	1	3	55	.....	4	32	.....	1	.....	.....	4
	1920	13	1	3	53	.....	0	33	.....	1	.....	.....	3
	1922	14	2	2	45	.....	15	31	.....	1	.....	.....	4
TIN-PLATE MILLS.													
Selected occupations.	1910	5	(1)	1	79	.....	20	.....	.....	.....	.....	.....	.....
	1911	6	(1)	(1)	79	.....	21	.....	.....	.....	.....	.....	(1)
	1912	6	.....	2	78	.....	20	.....	.....	.....	.....	.....	(1)
	1913	10	.....	1	74	.....	24	.....	.....	.....	.....	.....	.....
	1914	10	.....	2	75	.....	23	.....	.....	.....	.....	.....	(1)
	1915	11	.....	1	74	.....	25	.....	.....	.....	.....	.....	(1)
	1919	9	(1)	4	80	.....	16	.....	.....	.....	.....	.....	1
	1920	9	1	2	84	.....	13	.....	.....	.....	.....	.....	.....
	1922	9	.....	2	83	.....	15	.....	(1)	.....	.....	.....	.....
All occupations.....	1914	11	(1)	4	58	.....	37	.....	(1)	.....	.....	.....	1
	1915	11	(1)	3	57	.....	37	.....	(1)	.....	.....	.....	2
	1920	9	1	5	55	.....	38	.....	(1)	.....	.....	.....	1
	1922	9	1	5	54	.....	38	.....	2	.....	.....	.....	1

¹ Less than 1 per cent.

A blast furnace is the only department in the industry which from the nature of its process must be in continuous operation day and night for seven days per week. The report for blast furnaces shows, therefore, the actual change in the amount of necessarily regular 7-day work throughout the entire period covered by these reports. Before the war the provision for laying off each employee in rotation one day in seven, by a system of relief men (started in 1910), had so far obtained that the percentage of employees doing 7-day work in the principal productive occupations of blast furnaces had decreased from 95 in 1910 to 59 in 1915, with an additional 4 per cent working seven days in alternate weeks. During the war period relief systems were largely abandoned, with a consequent increase in 7-day work, but in 1922 the practice of relieving employees had been so far restored that only 31 per cent were working seven days regularly.

FULL-TIME WORKING HOURS PER WEEK.

In Table 4 is shown a percentage distribution according to the average full-time hours per week of employees in the several departments of the iron and steel industry. The percentages for the years 1907 to 1917 are based on the number of jobs or positions normally required to operate the different plants or such units as were being

operated at the time data were obtained, while those for 1919, 1920, and 1922, are based on the number of employees actually appearing on the pay rolls.

The classified hours of the table are average hours and do not reflect the long hours of one week that may alternate with much shorter hours the next. Thus a man who works 72 hours one week and 84 hours the next has an average of 78 hours, which is tabulated in the group "Over 72 and under 84." As in Table 3, the data presented are for two groups of employees, those working in selected occupations and those working in all occupations.

TABLE 4.—PER CENT OF EMPLOYEES IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS IN EACH DEPARTMENT WORKING EACH SPECIFIED NUMBER OF AVERAGE FULL-TIME HOURS PER WEEK, BY YEARS.

Department.	Year.	Number of plants.	Per cent of employees whose average full-time hours per week were—								
			48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84	Over 84.	
BLAST FURNACES.											
Selected occupations.....	1907	20			3	13	(1)	5	80		
	1908	20			5	17		7	71		
	1909	20			3	15	(1)	8	74		
	1910	34		(1)	4	13	1	8	75		
	1911	35		(1)	4	12	6	6	72		
	1912	36		4	5	11	13	6	61		
	1913	35		1	6	11	13	6	64	(1)	
	1914	38		(1)	8	11	25	7	46	(1)	
	1915	38		1	6	12	26	7	47	(1)	
	1917	18			4	6	40	5	44		
	1919	24			7	3	6	8	12	64	
	1920	28		(1)	15	2	9	17	33	23	
	1922	32			6	9	9	46	11	19	
All occupations.....	1914	38		(1)	5	13	12	22	7	41	(1)
	1915	38		(1)	6	12	12	23	7	41	(1)
	1920	28			18	7	11	16	17	29	(1)
	1922	32		1	7	13	10	39	13	17	(1)
BESSEMER CONVERTERS.											
Selected occupations.....	1907	9		23	2	1	8	21	24	23	(1)
	1908	9		29	3	2	8	27	15	16	
	1909	9		22	3	1	6	25	26	18	
	1910	10		17	7	3	1	33	12	24	3
	1911	10		19	2	2	7	41	20	9	
	1912	10		22	3	2	7	30	21	15	
	1913	10		17	3	1	8	33	24	10	
	1914	12		18	9	3	10	30	10	11	
	1915	12		18	8	4	7	41	9	12	
	1917	8		22	1	1	1	61	14	(1)	
	1919	11		15	5	2	15	46	18	1	
	1920	11		17	8	1	17	26	16	15	
	1922	11		15	8	3	13	53	1	6	
All occupations.....	1914	12		12	9	4	11	40	13	12	
	1915	12		12	7	5	8	44	11	13	
	1920	11		14	7	2	14	25	17	21	
	1922	11		11	6	6	10	53	5	9	
OPEN-HEARTH FURNACES.											
Selected occupations.....	1910	17		(1)	1	2	13	25	33	27	
	1911	17			1	2	25	23	34	15	
	1912	17			2	2	11	23	40	23	
	1913	17			1	1	8	23	37	31	
	1914	22		(1)	5	6	8	20	40	21	(1)
	1915	22			4	5	10	22	38	22	
	1917	13			(1)		7	39	26	28	
	1919	17			8	2	2	24	45	20	
	1920	19		(1)	32	1	10	9	46	3	
	1922	22		1	14	3	14	32	22	13	(1)

¹ Less than 1 per cent.

10 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE 4.—PER CENT OF EMPLOYEES IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS IN EACH DEPARTMENT WORKING EACH SPECIFIED NUMBER OF AVERAGE FULL-TIME HOURS PER WEEK, BY YEARS—Continued.

Department.	Year.	Number of plants.	Per cent of employees whose average full-time hours per week were—							
			48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84	Over 84.
OPEN-HEARTH FURNACES—concl'd.										
All occupations.....	1914	22	(1)	7	6	9	23	32	24	(1)
	1915	22	(1)	7	5	11	24	30	23	(1)
	1920	19	1	32	2	9	14	38	6	(1)
	1922	22	3	15	4	15	28	20	16	(1)
FUDDLING MILLS.										
Selected occupations.....	1914	29	29	58	5	7	1	(1)	.....	.....
	1915	29	32	55	5	7	1	(1)	.....	.....
	1919	12	34	49	3	13	1	(1)	(1)	.....
	1920	15	24	45	11	14	6	(1)	(1)	.....
	1922	13	46	36	7	11	(1)	(1)	.....	.....
All occupations.....	1914	29	27	55	6	9	1	1	(1)	.....
	1915	29	31	53	6	9	1	(1)	(1)	.....
	1920	15	24	41	12	15	7	(1)	1	(1)
	1922	13	41	33	10	15	(1)	1	1	(1)
BLOOMING MILLS.										
Selected occupations.....	1910	19	2	6	1	10	57	7	17	.....
	1911	19	2	8	2	11	56	10	12	.....
	1912	19	2	8	1	11	55	11	12	.....
	1913	19	3	11	1	12	47	19	6	.....
	1914	23	6	13	3	8	56	11	3	.....
	1915	23	6	13	3	6	55	15	2	.....
	1917	12	10	6	3	.....	59	22	1	.....
	1919	19	13	13	(1)	6	48	12	3	.....
	1920	20	16	19	2	8	34	17	5	.....
	1922	24	3	22	8	9	28	28	3	.....
All occupations.....	1914	23	3	8	5	8	59	9	9	(1)
	1915	23	2	7	4	7	58	12	9	(1)
	1920	20	12	12	2	12	35	18	3	(1)
	1922	24	4	21	7	12	27	18	12	(1)
PLATE MILLS.										
Selected occupations.....	1910	11	.....	.....	7	57	32	1	3	.....
	1911	11	.....	(1)	9	47	42	1	1	.....
	1912	11	.....	(1)	8	42	43	5	2	1
	1913	11	.....	(1)	7	42	44	5	1	1
	1914	13	.....	1	4	43	39	7	1	.....
	1915	13	.....	4	4	46	36	8	1	.....
	1917	7	.....	1	3	22	74	.....	(1)	.....
	1919	11	.....	4	1	21	73	1	1	.....
	1920	11	.....	2	5	40	47	6	(1)	.....
	1922	12	(1)	19	19	25	30	6	1	.....
All occupations.....	1914	13	.....	3	4	44	39	6	4	.....
	1915	13	.....	5	5	41	38	7	4	.....
	1920	11	.....	5	4	41	42	4	3	.....
	1922	12	(1)	22	16	22	28	4	7	(1)
STANDARD RAIL MILLS.										
Selected occupations.....	1910	6	4	2	8	4	52	1	30	.....
	1911	7	4	2	4	3	72	7	3	.....
	1912	7	4	2	5	3	72	3	2	.....
	1913	7	4	2	7	4	80	3	2	.....
	1914	7	8	.....	3	11	78	.....	(1)	.....
	1915	7	6	.....	2	7	82	2	2	.....
	1919	5	20	(1)	2	2	77	.....	1	.....
	1920	4	33	1	3	.....	47	.....	1	.....
	1922	4	31	14	1	22	33	(1)	.....	.....
All occupations.....	1914	7	5	(1)	3	13	74	1	4	.....
	1915	7	4	1	3	9	77	2	5	.....
	1920	4	33	4	2	20	37	2	2	.....
	1922	4	32	12	3	19	26	2	6	.....

¹ Less than 1 per cent.

TABLE 4.—PER CENT OF EMPLOYEES IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS IN EACH DEPARTMENT WORKING EACH SPECIFIED NUMBER OF AVERAGE FULL-TIME HOURS PER WEEK, BY YEARS—Concluded.

Department.	Year.	Number of plants.	Per cent of employees whose average full-time hours per week were—							
			48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84	Over 84.
BAR MILLS.										
Selected occupations.....	1907	15	5	13	9	52	19	3	1	.....
	1908	15	4	14	12	47	20	1	(1)	.....
	1909	15	4	14	10	59	9	3	1	.....
	1910	25	11	12	12	46	17	3	1	(1)
	1911	26	11	20	8	47	14	1	(1)	.....
	1912	26	11	27	7	41	13	1	(1)	.....
	1913	44	6	37	10	41	4	2	(1)	.....
	1914	57	5	34	8	47	5	1	(1)	.....
	1915	57	10	31	6	46	7	1	(1)	.....
	1919	23	14	10	13	47	14	1	1	.....
	1920	23	10	34	4	42	3	1	(1)	.....
	1922	25	7	45	3	33	11	1	(1)	.....
All occupations.....	1914	57	4	31	12	44	7	2	1	.....
	1915	57	8	30	10	42	8	1	(1)	.....
	1920	25	9	28	8	40	12	3	(1)	.....
	1922	25	6	39	4	35	14	1	1	.....
SHEET MILLS.										
Selected occupations.....	1910	9	81	1	10	4	4	(1)	(1)	.....
	1911	9	84	1	7	5	4	(1)	(1)	.....
	1912	9	84	(1)	7	5	3	(1)	(1)	.....
	1913	13	88	2	4	1	4	(1)	(1)	.....
	1914	15	89	1	2	3	5	(1)	(1)	.....
	1915	15	87	1	3	3	4	1	(1)	.....
	1917	8	80		15	5	(1)			.....
	1919	11	92	1	4	1	3			.....
	1920	13	90	1	3	2	3	1		.....
	1922	14	84	4	5	2	5	1		.....
All occupations.....	1914	15	62	2	8	10	13	2	2	.....
	1915	15	61	2	10	12	11	2	2	.....
	1920	13	64	6	8	9	9	2	1	.....
	1922	14	60	8	10	10	7	2	3	(1)
TIN-PLATE MILLS.										
Selected occupations.....	1910	5	81	13	4	3				.....
	1911	6	80	11	6	3	(1)			.....
	1912	6	79	12	6	3	(1)	(1)	(1)	.....
	1913	10	75	14	3	8	(1)			.....
	1914	10	76	13	2	8	(1)		(1)	.....
	1915	11	77	15	3	6	(1)	(1)	(1)	.....
	1919	9	83	10	3	3	1	(1)	(1)	.....
	1920	9	88	9	1	1	(1)			.....
	1922	9	92	5	1	1	(1)	(1)	(1)	.....
All occupations.....	1914	11	59	17	9	12	2	(1)	1	(1)
	1915	11	60	18	9	11	1	1	1	(1)
	1920	9	58	18	8	10	7	1	(1)	(1)
	1922	9	61	18	5	9	5	1	(1)	(1)

¹ Less than 1 per cent.

The relief provision in blast furnaces referred to in the discussion of customary working turns per week is reflected in this table in a marked degree. In 1910, 75 per cent of the employees in the principal productive occupations worked 84 hours per week regularly and 8 per cent over 72 and under 84 hours. Following 1910, however, as the practice of laying off employees at regular intervals became general, there was a material reduction in 7-day work, and in 1915 these percentages had dropped to 47 and 7, respectively. Employees necessarily worked longer hours during the war period, but in 1922 full-time hours per week reached the lowest point in blast-furnace history, only 19 per cent being shown as working 84 hours with 11 per cent working over 72 and under 84 hours.

COMMON LABORERS.

Nearly all common laborers in the iron and steel industry are paid on an hourly basis and their earnings depend upon the number of hours worked. The basic labor rate is practically the same in all departments of a plant, and by it, to a large extent, are determined the rates for other occupations requiring little skill. The rate for common labor, therefore, is of importance beyond the limits of the occupation proper.

In this survey "common labor" has been confined to laborers, wholly unskilled and more or less a floating gang, who worked in and about the mill proper, but upon whose work the mill was not primarily dependent for operation.

Average earnings per hour of common laborers in each of the 10 departments treated in this report are shown in Table 5. The figures here presented are also published in the several sections of this report relating to specific departments:

TABLE 5.—AVERAGE EARNINGS PER HOUR OF COMMON LABORERS IN SPECIFIED DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1907 TO 1922, BY DISTRICTS AND BY YEARS.

[For number of plants reporting see sections relating to the specific departments, published elsewhere in this report.]

District.	Average earnings per hour in—										
	Blast furnaces.	Bessemer converters.	Open-hearth furnaces.	Puddling mills.	Bloom-ing mills.	Plate mills.	Stand-ard rail mills.	Bar mills.	Sheet mills.	Tin-plate mills.	All de-partments.
Eastern:											
1907	\$0.135							\$0.132			\$0.134
1908	.115							.131			.120
1909	.119							.131			.123
1910	.142		\$0.145		\$0.143	\$0.131		.147			.142
1911	.140		.146		.139	.131		.145			.141
1912	.144		.152		.141	.133		.145			.144
1913	.151		.168		.162	.151	\$0.160	.156			.157
1914	.153		.169	\$0.163	.172	.151	.157	.151			.156
1915	.151		.171	.157	.154	.151	.161	.150			.155
1917	.271		.287		.250	.250					.278
1919	.423		.408	.400	.437	.368		.409			.398
1920	.444		.485	.451	.437	.398		.479			.451
1922	.345		.326	.323	.326	.300		.313			.322
Pittsburgh:											
1907	.152	\$0.156						.154			.154
1908	.154	.156						.157			.156
1909	.152	.153						.151			.152
1910	.166	.164	.162		.168	.167	.161	.161	\$0.164	\$0.165	.164
1911	.165	.167	.164		.170	.168	.169	.163	.166	.164	.166
1912	.163	.168	.165		.169	.172	.168	.163	.168	.167	.167
1913	.191	.192	.190		.192	.191	.189	.183	.191	.192	.190
1914	.192	.193	.188	.190	.192	.188	.194	.183	.192	.192	.190
1915	.189	.193	.193	.189	.192	.189	.184	.184	.192	.194	.190
1917	.292	.299	.300		.300	.300			.321		.301
1919	.484	.485	.471	.447	.489	.484	.484	.482	.460	.477	.480
1920	.525	.532	.537	.529	.537	.532	.535	.528	.517	.530	.530
1922	.356	.359	.365	.362	.359	.357	.351	.358	.363	.360	.360
Great Lakes and Middle West:											
1907	.162	.154						.159			.158
1908	.152	.152						.158			.153
1909	.153	.146						.157			.151
1910	.162	.161	.162		.163	.164	.163	.167			.163
1911	.166	.164	.166		.166	.164	.169	.166			.166
1912	.166	.166	.170		.167	.162	.169	.170			.168
1913	.189	.190	.190		.190	.195	.191	.189	.187	.186	.189
1914	.190	.191	.191	.182	.190	.190	.192	.190	.180	.186	.189
1915	.187	.191	.191	.180	.190	.189	.189	.190	.180	.186	.188
1917	.296	.297	.299		.295	.299			.335		.313
1919	.466	.501	.485	.464	.487	.469	.472	.450	.463	.434	.469
1920	.549	.545	.559	.521	.528	.514	.511	.526	.547	.535	.541
1922	.374	.367	.366	.361	.374	.349	.363	.362	.352	.357	.363

TABLE 5.—AVERAGE EARNINGS PER HOUR OF COMMON LABORERS IN SPECIFIED DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1907 TO 1922, BY DISTRICTS AND BY YEARS—Concluded.

District.	Average earnings per hour in—										
	Blast furnaces.	Bessemer converters.	Open-hearth furnaces.	Puddling mills.	Bloom-ing mills.	Plate mills.	Stand-ard rail mills.	Bar mills.	Sheet mills.	Tin-plate mills.	All de-partments.
Southern:											
1907.....	\$0.130										\$0.130
1908.....	.111										.111
1909.....	.112										.112
1910.....	.128		\$0.130		\$0.131						.129
1911.....	.131		.130		.132						.131
1912.....	.130		.132		.131						.130
1913.....	.136		.152		.138						.140
1914.....	.137		.169	\$0.144	.148			\$0.142			.146
1915.....	.134		.158	.146	.140			.141			.141
1917.....	.226		.221		.217			.142			.222
1919.....	.334		.370	.299	.374			.275			.331
1920.....	.359		.480	.312	.404			.381			.396
1922.....	.257		.296	.219	.283			.222			.253
Total:											
1907.....	.146	\$0.155						.153			.151
1908.....	.140	.155						.133			.147
1909.....	.138	.151						.150			.145
1910.....	.150	.163			.162	\$0.159	\$0.163	.160	\$0.164	\$0.165	.158
1911.....	.151	.166			.163	.158	.169	.159	.166	.164	.161
1912.....	.152	.167			.163	.161	.169	.160	.168	.167	.162
1913.....	.173	.192			.185	.175	.187	.169	.190	.189	.181
1914.....	.177	.193		.173	.187	.174	.185	.173	.188	.189	.181
1915.....	.171	.193		.186	.167	.187	.174	.182	.173	.188	.183
1917.....	.281	.298		.292		.287	.294		.331		.298
1919.....	.457	.489		.436		.469	.450	.478	.443	.462	.461
1920.....	.474	.537		.437		.511	.498	.531	.506	.536	.508
1922.....	.315	.363		.354		.350	.336	.354	.316	.356	.336

AVERAGE HOURLY EARNINGS IN DEPARTMENTS, 1922, BY DISTRICTS.

Table 6 shows, by districts, the average hourly earnings in 1922 in each department as a whole, all occupations combined. The average was obtained by dividing the total earnings by the total hours worked.

TABLE 6.—AVERAGE HOURLY EARNINGS IN EACH DEPARTMENT, ALL OCCUPATIONS COMBINED, 1922, BY DISTRICTS.

District.	Blast furnaces.	Bessemer converters.	Open-hearth furnaces.	Puddling mills.	Bloom-ing mills.	Plate mills.	Stand-ard rail mills.	Bar mills.	Sheet mills.	Tin-plate mills.
Eastern	\$0.394		\$0.450	\$0.472	\$0.488	\$0.430		\$0.457		
Pittsburgh.....	.423	\$0.478	.510	.576	.484	.498	\$0.488	.517	\$0.728	\$0.676
Great Lakes and Middle West.....	.440	.458	.481	.501	.472	.494	.453	.507	.645	.587
Southern.....	.322		.433	.404	.408			.384		
Total.....	.398	.470	.480	.496	.472	.476	.470	.486	.694	.650

The highest hourly averages are found in the sheet and tin-plate mill departments, the rolling crews in these mills working in three shifts at high speed and making exceptionally high hourly rates. The lowest hourly average is found in the blast-furnace department, owing to the preponderance of common labor or of occupations requiring only very moderate skill. The hourly averages for the two steel-making departments, the puddling mill department, and the remaining rolling mills all fall within a range of two cents, the puddling mill average being the highest.

The Pittsburgh and the Great Lakes and Middle West districts show considerably higher average hourly earnings than the Eastern and Southern districts, in all departments except blooming mills. This condition was due to the lower rates paid to common labor in the Eastern and Southern districts. The proportion of common labor and of occupations requiring little skill in nearly every department was sufficient to affect materially the average for all occupations, even though there was in many cases much less variation between the rates of highly skilled occupations in the several districts. In the blooming mill department some of the highly skilled occupations were paid unusually high rates in the Eastern district.

SCOPE OF 1922 DATA.

In 1922 information was obtained from plants located in 13 States. The plants covered have been grouped into four districts. These districts were established, not strictly on geographical lines, but rather according to similar industrial conditions. The "Eastern" district covers the eastern part of New York, of Pennsylvania, and of Maryland. The "Pittsburgh" district includes not only the plants in Pittsburgh proper, but also others in western Pennsylvania, those along the border line in Ohio from Youngstown south to Bellaire, and those located in the "Panhandle" of West Virginia. The "Great Lakes and Middle West" district includes plants scattered along the Great Lakes, and also some in inland districts, including Colorado. Although this is a very large territory geographically, it is essentially a unit industrially, as far as the iron and steel industry is concerned, the wage rates of the entire district being based largely on those paid in the two producing centers, Buffalo and Chicago. The "Southern" district includes plants in Virginia, Tennessee, Alabama, Kentucky, and the southern part of Ohio. The southern Ohio plants are included in the Southern district because the conditions, both as to wages paid and the general class of labor employed, resemble much more closely the conditions of the Alabama and Kentucky plants than they do those of the other plants of Ohio.

The actual number of employees reported in each district in each department and the number of plants covered in 1922 are shown in Table 7. Each department of an establishment has been counted as a separate plant.

TABLE 7.—NUMBER OF PLANTS AND EMPLOYEES SHOWN ON PAY ROLLS IN 1922, BY DEPARTMENTS AND DISTRICTS.

Department.	Eastern district.		Pittsburgh district.		Great Lakes and Middle West district.		Southern district.		Total.	
	Plants.	Em- ployees.	Plants.	Em- ployees.	Plants.	Em- ployees.	Plants.	Em- ployees.	Plants.	Em- ployees.
Blast furnaces.....	4	853	9	3,382	10	3,379	9	2,942	32	10,556
Bessemer converters.....			6	1,309	5	985			11	2,294
Open-hearth furnaces.....	5	1,154	5	2,440	9	3,554	3	806	22	7,954
Puddling mills.....	5	844	3	849	2	577	3	438	13	2,758
Bloomng mills.....	5	598	8	1,566	8	1,520	3	448	24	4,132
Plate mills.....	4	1,132	4	1,391	4	1,022			12	3,545
Standard rail mills.....			2	630	2	610			4	1,270
Bar mills.....	6	946	7	2,506	7	2,058	5	889	25	6,399
Sheet mills.....			9	5,548	5	3,694			14	9,242
Tin-plate mills.....			6	5,968	3	3,024			9	8,992
Total.....	29	5,527	59	25,589	55	20,453	23	5,573	166	57,142

EXPLANATION OF TABLES.

Following is a brief explanation of the data contained in the five major statistical tables, parts of which appear in each of the sections relating to the several departments.

Table A.—Average customary full-time hours per week, average earnings per hour, and average full-time weekly earnings, together with the index numbers computed from these averages, are presented in this table for the principal productive occupations in each department separately. The average customary full-time hours per week of employees have been classified and the percentages of employees working such hours are also shown in the table. Data are presented for all years for which information is available. Figures for 1922 were compiled for this report and those for earlier years were taken from previous reports published by this bureau.

The number of employees reported for all years up to and including 1917, with the exception of laborers and those employed in certain other unskilled general positions, is the number of jobs or positions required in each occupation to operate the plants under normal conditions or such units as were operated for the pay period scheduled. For the years 1919, 1920, and 1922 the actual number of individuals appearing on the pay rolls in all occupations, both skilled and unskilled, have been reported.

The index numbers have been added as an aid in making a comparison of the actual data over a period of years. The index for each year is the per cent that the average for that year is of the average for 1913.

Table B.—A classification showing numbers and percentages of employees according to the number of days, or turns, per week customarily worked is presented in Table B. The figures are presented for the years 1907 to 1922,⁴ for each district reported and for all districts combined. In the data for 1922 all employees have been classified as nearly as possible by their regular working time. Gas or repair turns, however, have been disregarded when employees customarily work such turns at less frequent intervals than once

⁴ For three departments; 1910 to 1922, for six departments; and 1914 to 1922, for one department. No data available for 1916, 1918, and 1921.

every three weeks. In a few instances relief systems have also been omitted where the periods elapsing between reliefs were longer than three weeks. Such variations in the regular working time of employees have been cared for in the past by notes attached to the table.⁵ These variations, however, while many in number, affect only a very small per cent of the employees, and in most cases the change in working time would be so slight as to be almost negligible. As data for each new year are added to the table, the notes likewise increase, and in order to avoid this great multiplicity of notes, which on the whole are of little consequence, they have been entirely omitted.

With the exception of laborers and those employed in certain other unskilled general positions, the number of employees reported for each year up to and including 1917 represent the number of jobs or positions required to operate the plants under normal operating conditions, or such units as were operated for the period scheduled, and does not necessarily mean the number of men who actually worked during the pay period. All figures shown for 1919, 1920, and 1922 are based on the number of individuals appearing on the pay rolls. In the data for 1922 all employees who worked at two or more occupations during the pay period in which the number of turns, or days, per week differed have been tabulated as often as their turns per week changed. This method has, of course, led to duplications in the actual number of employees in many instances and in connection with Table B a text table is published for each department, showing the number of actual employees in each district together with the number of duplications or repeated employees in both selected and all occupations. Data for all occupations were first obtained in 1914, and a separate tabulation has been made for all occupations (in addition to that for selected occupations) for 1914, 1915, 1920, and 1922.

Table C.—This table covers the most important facts relative to the customary working time, actual earnings, and actual hours of employees in the principal productive occupations in each department. Data for each occupation are presented for each district and for all districts combined.

The customary working time has been divided into average turns per week, average hours per turn, and average full-time hours per week. These averages are based on the number of jobs or positions required in each occupation to operate the plants under normal conditions or such units as were operated for the period scheduled. However, allowance has been made for the regular relief of employees, if any, so that the report shows average customary hours and turns for individual employees, provided they work regularly and remain in the same position throughout the pay period. The actual number of employees engaged in each occupation is also shown, and they have been classified according to their average customary full-time hours per week. These hours are average hours and do not show the full-time hours of an employee for any one week, unless such employee does not alternate between day and night shifts, or works day and night shifts of equal length.

The average hours worked, average earnings per pay period, and average earnings per hour are based on the total hours and earnings

⁵See U. S. Bureau of Labor Statistics Bul. No. 305.

of each employee as taken from the pay rolls. The average earnings per hour were computed by dividing the total actual earnings received for the pay period by the total actual hours worked in each occupation. The average hours worked and the average earnings received for the half-month period have been obtained by dividing the totals in each case by the actual number of employees engaged in the occupation.

In addition the table shows similar averages for all work done in the department by employees, whether in the occupation under consideration or in any other occupation at which they may have worked during the period scheduled. This second set of averages is deemed necessary, as the average for the specified occupation alone fails to indicate the entire time and earnings of the individuals under consideration. These averages have been computed by the same method as the averages for the specified occupation.

Table D.—Classified hourly earnings are shown in this report for employees in two occupations only in each department. These occupations have been selected as representative of the degree of variation or spread of wages in all occupations. In no case does the same occupation appear in any two departments, except that of rollers, which appears in puddling mills and sheet mills, and that of heaters, which appears in blooming mills and tin-plate mills, and in these departments the duties of the repeated occupations vary so widely that they may be considered two distinct occupations. Exceptionally high or low earnings per hour in practically all occupations indicate that the employees were working under unusual conditions, such as performing work on Sunday at time and one-half rate, or working on a turn which produced exceedingly high or low tonnage.

Table E.—This table presents in detail the number of turns, hours per turn, and full-time hours per week of employees who regularly work 7 days per week or 12 hours or more per day either all or a part of the time. Data are shown for three groups of employees for each department, by districts, as follows: Those who work days only, those who work nights only, and those who alternate or rotate from day to night shift. All employees who changed occupations during the pay period scheduled, when the customary working time of the new occupation was different from the old in any way, have been omitted from this table in order to reduce the complications which arise from duplicated or repeated employees. For example, if an employee worked as a laborer on the basis of seven turns per week of 12 hours each and a cinderman on the basis of six turns of 13 hours each, he would not appear in this table.

There are many divisions of the 24-hour workday, brought about in numerous instances by employees arranging to divide day and night work into various lengths to suit their desires, and employers have recognized these divisions. This accounts for such turns as 11 hours for day and 13 hours for night, 10 hours for day and 14 hours for night, or 10½ hours for day and 13½ hours for night. While these turns are equivalent to a regular 12 hour shift, the different length of turns customarily worked by employees are shown in this table.

Owing to the gas and fix-up or repair turns necessary in many of the departments a number of employees customarily work a week

of 7 days at very infrequent intervals or occasionally a 12-hour turn. Such employees have not been considered as regular 7-day or 12-hour workers and have not been included.

Employees in two crews who alternate on day and night work and who work seven days on day turn and seven nights on night turn, must work a long shift of 18 to 24 hours when changing turns unless there is some system of relief provided.⁶ Likewise, when on a three-shift system, employees must work more than 8 hours out of 24 when changing turns. There are, however, varied systems of relief in force in many plants whereby this long turn is avoided.

In some instances in the table hours are reported for seven days, yet the number of days worked are reported as six. The figures are for a seven-day occupation wherein each employee was relieved one day in seven, but either this was not always on the same day each week, or information as to which day was not available; therefore the hours for all days have been shown and the relief indicated in the full-time hours per week.

The regular relief systems in force in many plants are shown to a large extent by this table, but it must not be assumed that there was no chance for rest where such have not been shown. In some plants, while there is no regular system of relief, the employees are not held strictly to the working days of the plant and can often take a day off as they desire it, the plant putting another man in the place of the one absent. As it was impossible to determine when or how often a man might be excused under such conditions, such plants have been treated in this table as though no relief was granted.

Workmen whose labor is continuous and who are subjected to high temperatures usually have spell hands—that is, three men work on a two-man position, or two men work on a one-man position, which arrangement allows each man in rotation intervals for rest. Such intervals of rest are considered as time on duty.

⁶ During the summer of 1923 there was a strong movement in this industry to eliminate the 12-hour day and 7-day week.

BLAST FURNACES.

The 1922 survey includes 32 representative blast-furnace plants which employed 10,556 men in all occupations. The number of employees reported in 1922 is somewhat less than in 1920, although data were obtained from a greater number of establishments, as in most cases companies were operating a fewer number of stacks. Of the 10,556 employees reported 6,037 are found in the principal productive occupations for which separate figures are given. Data were first obtained for this department in 1907 and comparative figures are presented for the period 1907 to 1922.¹

Considering the principal productive occupations as a whole, average full-time hours per week for 1922 show no change when compared with 1920, and a decrease of 7 per cent as compared with 1913. Average hourly earnings, however, declined 33 per cent during the period 1920 to 1922 but were 91 per cent higher than in 1913. Average full-time weekly earnings followed very closely the course of hourly earnings, as changes in full-time hours per week were very slight as compared with the variations in hourly earnings. The average earnings per hour of all employees in all occupations in 1922 was 39.8 cents as compared with 57.1 cents in 1920.

The most significant facts concerning average earnings and average hours in each of the principal productive occupations of blast furnaces are shown in Table A (1). While the customary working time of the 16 selected occupations combined shows no change in 1922 as compared with 1920, when considered separately the average full-time hours per week of 11 of the occupations show increases and 5 decreases. Increases range from 0.5 hours for blowing engineers to 5.7 hours for bottom fillers. The largest decrease is found in the occupation of laborers, which contains 25 per cent of all employees in selected occupations. The average full-time hours per week of laborers in 1907 were 75.8 which were reduced in 1913 to 72.5. In 1914 and 1915 working time again decreased to 70.8 and 71.3 hours respectively, but in 1917, owing to war conditions, hours began to increase and the high mark of 77.9 was reached in 1919. By 1920 the average had decreased to 72.3 hours per week and by 1922 to 67.7 hours.

Average earnings per hour have decreased in each of the 16 selected occupations when 1922 is compared with 1920 and 1919 but the 1922 figures are greater in each instance than those for any other year for which data are presented. The decreases between 1920 and 1922 range from 13.6 cents per hour for iron handlers and loaders to 23.7 cents for blowing engineers. For example, the average earnings per hour of blowing engineers fluctuated between 23 and 26.2 cents from 1909 to 1915. In 1917 earnings began to increase, and the average for that year was 39.1 cents per hour. The increase continued through 1919 to the high mark of 72 cents in 1920. The average for 1922 was 48.3 cents. Table A (1) shows like figures for the other occupations as well.

Average full-time weekly earnings in each selected occupation decreased in about the same proportion as average hourly earnings.

¹ No data were collected for the years 1916, 1918, and 1921.

From the nature of its process a blast furnace is in continuous operation seven days per week. However, owing to the various systems of relief in force in many plants, only 31 per cent or less of the employees in any selected occupation worked an average full time of 84 hours per week in 1922. A few 7-day workers were on an 8-hour basis and are included in the group "Over 48 and under 60." The large majority of the employees in this department are found in the groups "72" and "Over 72 and under 84."

Index numbers for full-time hours per week, earnings per hour, and full-time weekly earnings are also contained in Table A(1). These are simply percentages computed from the averages presented in the table, using the average for 1913 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 4.

TABLE A (1).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—BLAST FURNACES.¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—							
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84			
Stockers:																
1907.....	18	824	81.4	\$0.170	\$13.83	104	89	92	.....	.....	2	9	.....	13	77	
1908.....	18	473	79.1	.157	12.43	101	82	83	.....	.....	1	26	.....	15	58	
1909.....	18	737	80.9	.158	12.75	104	82	85	.....	.....	.....	10	.....	30	60	
1910.....	32	1,445	79.9	.164	13.17	102	85	88	.....	(²)	1	18	.....	2	15	63
1911.....	32	904	79.7	.168	13.40	102	88	89	.....	.....	1	3	12	7	16	62
1912.....	34	1,069	78.8	.171	13.46	101	89	90	.....	.....	1	2	10	13	23	50
1913.....	33	1,269	78.0	.192	15.00	100	100	100	.....	.....	1	3	18	12	22	45
1914.....	35	1,031	74.9	.188	14.03	96	98	93	.....	.....	3	4	27	21	16	29
1915.....	35	878	74.6	.188	13.99	96	98	93	.....	.....	2	5	27	22	17	27
1917.....	14	441	77.4	.295	22.79	99	154	152	.....	.....	.....	.....	3	47	9	41
1919.....	20	1,043	78.1	.465	36.32	100	242	242	.....	.....	13	(²)	6	6	8	66
1920.....	27	1,624	75.5	.527	39.68	97	274	265	.....	.....	.....	1	5	16	49	20
1922.....	31	1,316	74.4	.352	26.06	95	183	174	.....	.....	3	1	10	40	24	22
Bottom fillers:																
1907.....	7	293	84.0	.160	13.40	102	95	97	.....	.....	.....	.....	.....	.....	.....	100
1908.....	7	194	84.0	.150	12.59	102	89	91	.....	.....	.....	.....	.....	.....	.....	100
1909.....	7	282	84.0	.138	11.61	102	82	84	.....	.....	.....	.....	.....	.....	.....	100
1910.....	14	672	84.0	.152	12.77	102	90	92	.....	.....	.....	.....	.....	.....	.....	100
1911.....	15	417	84.0	.149	12.50	102	89	90	.....	.....	.....	.....	.....	.....	.....	100
1912.....	15	468	82.2	.152	12.53	100	90	90	.....	.....	.....	.....	.....	15	85	
1913.....	13	469	82.1	.168	13.88	100	100	100	.....	.....	.....	.....	.....	17	84	
1914.....	13	360	82.0	.167	13.76	100	99	99	.....	.....	.....	.....	.....	16	83	
1915.....	9	148	82.4	.176	14.48	100	105	104	.....	.....	.....	.....	.....	14	86	
1917.....	3	56	84.0	.270	22.68	102	161	163	.....	.....	.....	.....	.....	.....	.....	100
1919.....	4	72	82.2	.436	35.84	100	260	258	.....	.....	.....	.....	.....	.....	31	69
1920.....	6	249	67.1	.568	38.35	82	338	276	.....	.....	42	.....	.....	23	35	
1922.....	7	311	72.8	.336	24.44	89	200	176	.....	.....	16	.....	.....	53	31	
Top fillers:																
1907.....	8	66	84.0	.177	14.86	105	93	98	.....	.....	.....	.....	.....	.....	.....	100
1908.....	8	44	84.0	.168	14.15	105	88	93	.....	.....	.....	.....	.....	.....	.....	100
1909.....	8	50	84.0	.161	13.56	105	84	89	.....	.....	.....	.....	.....	.....	.....	100
1910.....	13	142	82.8	.169	13.85	103	88	91	.....	.....	4	.....	.....	.....	.....	96
1911.....	14	92	82.2	.171	13.84	102	90	91	.....	.....	7	.....	.....	.....	.....	93
1912.....	14	96	80.0	.175	13.81	100	92	91	.....	.....	.....	.....	.....	19	75	
1913.....	14	98	80.3	.191	15.19	100	100	100	.....	.....	6	.....	.....	16	78	
1914.....	13	80	80.1	.199	15.71	100	104	103	.....	.....	8	.....	.....	15	78	
1915.....	8	44	79.0	.213	16.44	98	112	108	.....	.....	14	.....	.....	9	77	
1917.....	3	22	84.0	.257	21.57	105	135	142	.....	.....	.....	.....	.....	.....	.....	100
1919.....	4	28	76.7	.468	35.90	96	245	236	.....	.....	21	.....	.....	.....	21	57
1920.....	6	74	71.2	.573	39.72	89	300	261	.....	.....	27	.....	.....	24	49	
1922.....	7	86	68.8	.388	26.02	86	203	171	.....	.....	27	.....	.....	53	20	

¹ This table was published in the Monthly Labor Review for May, 1923. ² Less than 1 per cent.

TABLE A (1).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 to 1922, BY OCCUPATIONS—BLAST FURNACES—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60 and under 72.	Over 72 and under 84.	84	
Larry men:														
1907	11	132	84.0	\$0.195	\$16.41	102	90	92						100
1908	11	86	84.0	.184	15.48	102	85	87						100
1909	11	135	84.0	.186	15.64	102	86	88						100
1910	21	231	84.0	.196	16.47	102	90	93						100
1911	21	203	82.9	.194	15.99	101	89	90				9		91
1912	23	241	78.2	.199	15.46	95	92	87		15		14		71
1913	23	238	82.3	.217	17.77	100	100	100				14		86
1914	27	192	78.6	.215	16.88	96	99	95				43	4	53
1915	27	212	78.6	.211	16.51	96	97	93				43	4	53
1917	14	183	77.2	.327	25.14	94	151	141				55	4	41
1919	18	286	80.4	.542	43.58	98	250	245		6		9	12	73
1920	24	369	73.8	.586	42.65	90	270	240		17		21	36	27
1922	27	340	75.1	.402	29.96	91	185	169		4		58	15	22
Larry men's helpers:														
1907	10	115	84.0	.159	13.35	102	83	85						100
1908	10	79	84.0	.152	12.80	102	80	81						100
1909	10	135	84.0	.149	12.53	102	78	79						100
1910	19	278	84.0	.165	13.88	102	86	88						100
1911	19	294	82.6	.168	13.89	100	88	88				12		88
1912	23	359	79.6	.172	13.64	96	90	87		10		14		76
1913	23	352	82.6	.191	15.78	100	100	100				11		89
1914	27	250	78.6	.187	14.67	95	98	93				43	3	54
1915	27	275	78.3	.185	14.43	95	97	91		(?)		46	3	51
1917	12	161	79.6	.292	23.20	96	153	147				34	5	60
1919	18	310	79.3	.491	38.94	96	257	247		10		9	13	68
1920	19	517	73.9	.531	39.09	89	278	248		8		10	16	55
1922	24	383	74.9	.356	26.40	91	186	167		4	(?)	3	56	23
Skip operators:														
1907	11	86	84.0	.193	16.19	101	89	90						100
1908	11	64	84.0	.184	15.49	101	85	87						100
1909	11	94	84.0	.183	15.40	101	84	86						100
1910	19	125	84.0	.197	16.56	101	91	92						100
1911	19	124	83.8	.198	16.60	101	91	92				2		98
1912	20	138	79.3	.206	16.19	96	95	90		13		9		78
1913	22	158	82.9	.217	17.97	100	100	100				9		91
1914	28	139	79.5	.214	16.98	96	99	94				35	6	60
1915	28	152	79.4	.215	17.03	96	99	95				36	5	59
1917	13	118	77.3	.343	26.52	93	158	148				56		44
1919	19	169	80.4	.536	43.09	97	247	240		5		15	6	74
1920	22	217	73.4	.594	43.30	89	274	241		18		28	26	28
1922	25	220	75.8	.401	30.20	91	185	168		3		53	15	29
Blowers:														
1907	18	78	84.0	.300	25.17	102	90	93						100
1908	18	68	84.0	.283	23.74	102	85	87						100
1909	18	86	84.0	.286	24.04	102	86	88						100
1910	32	131	83.5	.296	24.74	102	89	91			2			98
1911	33	123	82.9	.305	25.21	101	92	93				9		91
1912	34	139	80.3	.315	25.01	98	95	92		6		16		78
1913	34	154	82.2	.332	27.21	100	100	100				1		85
1914	38	143	80.7	.333	26.74	98	100	98				1	25	5
1915	38	149	80.6	.336	26.93	98	101	99				1	26	5
1917	18	84	77.8	.485	37.50	95	146	138				49	7	44
1919	24	134	79.8	.755	60.25	97	227	221		7		10	14	68
1920	28	198	73.2	.868	62.87	89	261	231		5	15	22	34	24
1922	32	195	72.4	.678	49.00	88	204	180				62	12	15

* Less than 1 per cent.

* Including 1 per cent whose full-time weekly hours were 91.

22 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE A (1).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—*BLAST FURNACES*—Continued.

Occupation and year.	Number of plants.	Number of employ-ees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—				
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84
Blowing engi-neers:													
1907	20	100	84.0	90.242	20.30	102	93	95					100
1908	20	85	84.0	.235	19.77	102	90	93					100
1909	20	103	84.0	.230	19.35	102	88	91					100
1910	34	153	84.0	.243	20.39	102	93	96					100
1911	35	137	82.9	.244	20.15	101	94	95					100
1912	35	142	80.6	.249	19.93	98	96	94		4		9	91
1913	35	156	82.0	.260	21.28	100	100	100				18	77
1914	38	147	79.3	.262	20.64	97	101	97				37	87
1915	38	153	79.1	.262	20.64	96	101	97				39	85
1917	18	122	76.1	.301	29.61	93	150	139				64	36
1919	24	143	80.0	.428	50.24	98	242	236		7		12	71
1920	28	164	73.7	.720	52.50	90	277	247		16		29	30
1922	32	213	74.2	.483	35.49	99	185	167		5		62	19
Blowing engi-neers' assist-ants:													
1907	11	67	84.0	.203	17.02	101	90	91					100
1908	11	51	81.0	.199	16.72	101	88	90					100
1909	11	74	84.0	.191	16.08	101	85	86					100
1910	18	94	84.0	.207	17.38	101	92	93					100
1911	18	91	83.2	.205	17.06	100	91	91					100
1912	18	108	80.4	.211	16.85	97	94	90				7	95
1913	18	94	83.2	.225	18.67	100	100	100		8		10	81
1914	21	99	79.0	.223	17.57	95	99	94				6	94
1915	21	98	78.3	.223	17.41	94	99	93				36	12
1919	17	130	79.1	.365	44.69	95	251	239		7		42	46
1920	22	189	71.7	.632	45.24	86	281	242		20		17	61
1922	24	213	73.5	.424	31.08	88	188	166		6		30	25
												67	11
Stove tenders:													
1907	20	140	84.0	.192	16.10	103	91	93					100
1908	20	96	84.0	.185	15.52	103	88	90					100
1909	20	140	84.0	.181	15.22	103	86	88					100
1910	34	200	84.0	.193	16.21	103	91	94					100
1911	35	180	82.7	.190	15.68	101	90	91					89
1912	36	211	79.5	.195	15.38	97	92	89				8	74
1913	35	220	81.9	.211	17.30	100	100	100					83
1914	38	183	79.7	.209	16.56	97	99	96				33	7
1915	38	186	79.4	.208	16.46	97	99	95				35	6
1919	24	204	80.3	.528	42.40	98	250	245		4		14	15
1920	28	297	73.7	.592	43.38	90	281	251		19		21	34
1922	32	279	75.2	.403	30.08	92	191	174		4		61	12
Keepers:													
1907	20	146	84.0	.218	18.34	102	93	95					100
1908	20	96	84.0	.210	17.68	102	89	92					100
1909	20	141	84.0	.205	17.26	102	87	90					100
1910	34	201	84.0	.215	18.09	102	91	94					100
1911	35	184	82.7	.217	17.95	101	92	93					89
1912	36	213	79.6	.223	17.59	97	95	91				11	89
1913	35	230	82.0	.235	19.28	100	100	100		8		17	74
1914	38	184	79.6	.233	18.47	97	99	96				17	83
1915	38	187	79.4	.232	18.33	97	99	95				34	7
1917	18	162	77.4	.344	26.55	94	146	138				35	6
1919	24	203	80.6	.562	45.30	98	239	235		4		52	7
1920	28	280	73.7	.635	46.45	90	270	241		18		11	14
1922	32	288	75.3	.420	31.47	92	179	163		4		24	34
												58	13
Keepers' help-ers:													
1907	20	616	84.0	.165	13.89	102	89	91					100
1908	20	409	84.0	.160	13.41	102	86	88					100
1909	20	596	84.0	.155	13.04	102	93	85					100
1910	34	877	84.0	.168	14.13	102	90	92					100
1911	35	742	83.1	.167	13.84	101	90	90					92
1912	36	870	80.2	.173	13.75	98	93	90				8	78
1913	35	950	82.2	.186	15.31	100	100	100		8		14	85
1914	38	734	80.6	.185	14.83	98	99	97				15	7
1915	38	727	80.1	.182	14.48	97	98	95				28	66
1917	18	392	77.6	.292	22.59	94	157	148				30	5
1919	24	650	80.2	.480	38.50	98	254	251		6		55	9
1920	28	1,168	74.5	.522	38.60	91	281	252		15		13	10
1922	32	1,178	75.3	.349	26.16	92	188	171		4		22	30
												3	30
												56	11

* Including less than 1 per cent whose full-time hours were 91.

TABLE A (1).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 to 1922, BY OCCUPATIONS—BLAST FURNACES—Concluded.

Occupation and year.	Number of plants.	Number of employes.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—									
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84					
Iron handlers and loaders:																		
1907.....	9	203	73.2	\$0.193	\$14.20	101	88	88			60		6	34				
1908.....	9	163	73.0	.190	13.95	101	86	87			60		9	32				
1909.....	9	242	73.6	.177	13.05	102	80	81			57		7	36				
1910.....	18	305	74.2	.194	14.36	102	88	89			59		6	35				
1911.....	19	308	73.0	.195	14.17	101	89	88			1	61	6	31				
1912.....	19	406	73.1	.206	15.11	101	94	94			6	49	9	4	32			
1913.....	19	446	72.5	.220	16.07	100	100	100			2	8	47	9	4	29		
1914.....	16	333	71.5	.222	16.09	99	101	100			5	4	11	37	8		34	
1915.....	16	323	74.0	.204	15.22	102	93	95			2	3	53	2			39	
1917.....	4	106	71.4	.243	17.44	98	110	109					85	6			9	
1919.....	4	94	72.9	.361	26.32	101	164	164			2	71		11			16	
1920.....	8	260	72.2	.443	32.00	100	201	199			3	1	60	15			21	
1922.....	8	386	70.4	.307	21.67	97	140	135			12	37	49				2	
Pig-machine men:																		
1907.....	9	193	84.0	.167	14.03	103	87	89									100	
1908.....	9	157	83.9	.163	13.69	102	85	87									98	
1909.....	9	152	83.9	.162	13.57	102	84	86									98	
1910.....	16	291	83.9	.169	14.14	102	88	90			(?)	(?)					99	
1911.....	17	267	82.4	.169	13.98	101	88	89			(?)	(?)					87	
1912.....	17	275	81.9	.171	13.97	100	89	89			(?)	(?)					83	
1913.....	19	303	81.9	.192	15.72	100	100	100			(?)	(?)					85	
1914.....	21	259	79.2	.192	15.15	97	100	98			(?)	(?)					83	
1915.....	21	245	79.6	.190	15.07	97	99	96			(?)	(?)	1	32	7		80	
1917.....	10	154	77.9	.300	23.21	95	156	148					50	3			48	
1919.....	18	370	80.5	.477	38.40	98	248	244			9		4	7			80	
1920.....	21	390	72.2	.552	39.63	88	288	252			25		23	25			27	
1922.....	23	383	73.1	.380	27.73	89	198	176			12	1	58	6			23	
Cinder men:																		
1907.....	20	262	83.6	.173	14.40	105	97	101					2				88	
1908.....	20	245	82.6	.156	12.88	103	87	90					8				82	
1909.....	20	380	82.2	.150	12.34	103	84	86			1	9					78	
1910.....	32	482	82.9	.163	13.56	104	91	95			(?)	(?)	7				89	
1911.....	32	339	81.3	.158	12.84	102	88	90					10	10			78	
1912.....	32	397	75.2	.164	12.20	94	92	85			17	6	11	9	(?)		56	
1913.....	33	380	79.9	.179	14.27	100	100	100			1	12	15	7			64	
1914.....	31	286	78.3	.176	13.78	98	98	97			3	13	27	(?)			57	
1915.....	31	254	78.6	.174	13.64	98	97	96			4	2	9	24			62	
1917.....	13	168	78.4	.286	22.31	98	160	156					44				56	
1919.....	21	295	77.2	.473	36.52	97	264	256			14		7	9			60	
1920.....	23	87	68.4	.557	37.85	86	311	265			3	34		2	24		25	
1922.....	24	216	71.6	.390	27.76	90	218	195			13	10	4	38	14		20	
Laborers:																		
1907.....	20	957	75.8	.146	11.13	105	85	90					11	37	(?)		47	
1908.....	20	718	72.8	.140	10.24	100	82	82					20	38			27	
1909.....	20	757	73.0	.138	10.17	101	81	82					13	50	2		28	
1910.....	34	1,423	74.7	.150	11.23	103	88	90					19	28	2		30	
1911.....	35	937	73.3	.151	11.14	101	88	90					21	31	3		31	
1912.....	35	1,049	73.1	.152	11.15	101	89	90					20	30	10		31	
1913.....	35	1,273	72.5	.171	12.43	100	100	100			(?)	(?)	22	34	10		32	
1914.....	37	1,096	70.8	.177	12.52	98	104	101			(?)	(?)	35	12	21		25	
1915.....	37	885	71.3	.171	12.20	98	100	98			2	29	16	19	7		26	
1917.....	17	698	75.3	.281	21.23	104	164	171					16	12	22		44	
1919.....	24	2,184	77.9	.457	35.60	107	267	286			4	8	11	5			15	57
1920.....	27	1,770	72.3	.474	34.60	100	277	278			11	8	24	7			33	17
1922.....	32	1,500	67.7	.315	21.09	93	184	174			5	29	16	34	2		13	

* Less than 1 per cent.

* Including less than 1 per cent whose full-time hours were 91.

The number of employees reported in 1922 includes some duplications, or repeated employees, as stated in the general explanation of Table B (p. 15). Of the 6,164 employees reported in the selected occupations for all districts combined there were 127 duplications, leaving 6,037 actually engaged, and the total of 10,716 employees shown for all occupations represents 10,556 individuals.

The gross number of employees reported, together with the net number of actual employees for selected occupations and for all occupations in each district and in all districts combined, are shown in Table 8.

TABLE 8.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND ALL OCCUPATIONS, 1922, BY DISTRICTS—BLAST FURNACES.

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number.
Eastern.....	513	22	491	885	32	853
Pittsburgh.....	1,928	85	1,843	3,481	99	3,382
Great Lakes and Middle West.....	1,881	1	1,880	3,383	4	3,379
Southern.....	1,842	19	1,823	2,967	25	2,942
Total.....	6,164	127	6,037	10,716	160	10,556

The customary working time per week of employees in the blast-furnace department has been classified, and the number and per cent of employees coming under each classification are shown in Table B (1).

While the blast furnace process is a continuous operation, the amount of 7-day work among the employees varies according to the prevalence of systems for relieving men one day each week. These systems developed between 1910 and 1915, but were interrupted by the war. The percentage of seven-day workers in the combined selected occupations declined from 95 in 1910 to 81 in 1913 and to 59 in 1915, but owing to the war, increased to 80 in 1919, and then dropped to 54 in 1920. In 1922 the number of employees working the 7-day week was still further reduced and less than one-third, or 31 per cent, worked that number of turns. The number working six days per week has, however, increased from 5 per cent in 1910 to 57 per cent in 1922.

The greatest reduction in seven-day workers in 1922 was in the Southern district, 35 per cent working these turns as compared with 84 per cent in 1920, and the six-day workers increased from 16 per cent in 1920 to 63 per cent in 1922. There was also a material decrease in working time in the Great Lakes and Middle West district, where 28 per cent worked the seven-day week in 1922 as compared with 68 per cent in 1920.

In all occupations and all districts combined the percentage of regular seven-day workers was 29 in 1922; 54 in 1920, and 53 in 1914.

TABLE B (1).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1907 TO 1922, BY YEARS—BLAST FURNACES.

[For explanation of this table see p. 15.]

District.	Year.	Number of plants.	Number of employees. ¹	Number of employees whose customary working time per week was—			Per cent of employees whose customary working time per week was—				
				6 days.	6 days and 7 days alternately.	6 days, and 7 days in rotation.	7 days.	6 days.	6 days and 7 days alternately.	6 days, and 7 days in rotation.	7 days.
EASTERN.											
Selected occupations....	1907	2	320	33			287	10			90
	1908	2	235	43			192	18			82
	1909	2	328	11			317	3			97
	1910	6	1,436	79			1,357	6			95
	1911	6	779	118	2		659	15	(²)		85
	1912	6	660	134	2		524	20	(²)		79
	1913	6	811	185			626	23			77
	1914	6	604	161			443	27			73
	1915	6	421	86			335	20			80
	1917	3	385	177	14		194	46	4		50
	1919	3	351				351				100
	1920	3	329	51			278	16			84
1922	4	513	51	91		371	10	18		72	
All occupations.....	1914	6	1,078	354	46		678	33	4		63
	1915	6	794	256	5		533	32	1		67
	1920	3	647	137			505	21			79
	1922	4	885	171	180		534	19	20		60
PITTSBURGH.											
Selected occupations....	1907	6	1,731	74			1,657	4			96
	1908	6	1,161	87			1,074	7			93
	1909	6	1,683	66			1,617	4			96
	1910	9	2,302	111			2,191	5			95
	1911	9	2,127	127			2,000	6			94
	1912	9	2,415	101			2,314	4			96
	1913	10	2,640	65			2,575	2			98
	1914	10	2,061	853	267		941	41	13		46
	1915	10	1,980	860	204		916	43	10		46
	1917	5	1,129	199	157		773	18	14		68
	1919	8	3,100	221	284		2,595	7	9		84
	1920	8	2,913	826	1,415		672	28	49		23
	1922	9	1,928	1,118	447		363	58	23		19
All occupations.....	1914	10	3,298	1,466	405		1,427	44	12		43
	1915	10	3,176	1,470	316		1,390	46	10		44
	1920	8	4,916	1,550	1,473		1,893	32	30		39
	1922	9	3,481	1,947	811		723	56	23		21
GREAT LAKES AND MIDDLE WEST.											
Selected occupations....	1907	6	1,310	14			1,296	1			99
	1908	6	947	27			920	3			97
	1909	6	1,163	44			1,119	4			96
	1910	9	2,103	116			1,987	6			94
	1911	10	1,387	343			1,044	25			75
	1912	10	1,722	607			1,115	35			65
	1913	10	1,928	660			1,268	34			66
	1914	11	1,650	873			777	53			47
	1915	11	1,408	796			612	57			43
	1917	5	838	757			81	90			10
	1919	7	1,964	439	339		1,186	22	17		60
	1920	9	1,969	318	311		1,340	16	16		68
	1922	10	1,881	1,181	168		532	63	9		28
	All occupations.....	1914	11	3,172	1,883		3	1,286	59		(²)	41
1915		11	2,761	1,643		3	1,115	60		(²)	40
1920		9	3,871	743	618		2,480	19	17		64
1922		10	3,383	2,064	473		846	61	14		25

¹ The figures in this column for the years 1907 to 1917 represent the number of jobs and for the years 1919, 1920, and 1922 the actual number of men employed.

² Less than 1 per cent.

TABLE B (1).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1907 TO 1922, BY YEARS—BLAST FURNACES—Concluded.

District.	Year.	Number of plants.	Number of employees.	Number of employees whose customary working time per week was—				Per cent of employees whose customary working time per week was—				
				6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	7 days.	6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	7 days.	
SOUTHERN.												
Selected occupations....	1907	6	917				917				100	
	1908	6	685				685				100	
	1909	6	930	8			922	1			99	
	1910	10	1,209	37			1,172	3			97	
	1911	10	1,043	2			1,041	(*)			100	
	1912	11	1,304	265			1,039	20			89	
	1913	9	1,237	347			910	28			72	
	1914	11	997	52			945	5			95	
	1915	11	1,105	67			1,038	6			94	
	1917	5	515	127	31		357	25	6		69	
	1919	6	900				900				100	
	1920	8	1,676	261			1,415	16			84	
1922	9	1,842	1,169	20		653	63	1		35		
All occupations.....	1914	11	1,705	198			1,507	12			88	
	1915	11	1,832	230			1,602	13			87	
	1920	8	2,741	1,104			1,637	40			60	
	1922	9	2,967	1,932	36		999	65	1		34	
TOTAL.												
Selected occupations....	1907	20	4,278	121			4,157	3			97	
	1908	20	3,028	157			2,871	5			95	
	1909	20	4,104	129			3,975	3			97	
	1910	34	7,050	343			6,707	5			95	
	1911	35	5,336	590	2		4,744	11	(*)		89	
	1912	36	6,101	1,107	2		4,992	18	(*)		82	
	1913	35	6,636	1,257			5,379	19			81	
	1914	38	5,312	1,939	267		3,106	37	5		58	
	1915	38	4,914	1,809	204		2,901	37	4		59	
	1917	18	2,867	1,260	202		1,405	44	7		49	
	1919	24	6,315	660	623		5,032	10	10		80	
	1920	28	6,887	1,456	1,726		3,705	21	25		54	
	1922	32	6,164	3,519	726		1,919	57	12		31	
	All occupations.....	1914	38	9,253	3,901	451	3	4,808	42	5	(*)	53
		1915	38	8,563	3,599	321	3	4,040	42	4	(*)	54
1920		28	12,170	3,534	2,121		6,515	29	17		54	
1922		32	10,716	6,114	1,500		3,102	57	14		29	

* Less than 1 per cent.

Table C (1) presents the most significant facts relative to customary and actual working time, actual earnings per pay period, and earnings per hour of employees in 32 blast furnace plants, by occupations and districts, for the year 1922. In addition, for each occupation are shown the number of positions and the number of employees actually working during the pay period and also the time and earnings of the same employees during the same period at occupations other than the occupation specified.

Referring to the occupation of stockers, by way of illustration, 771 positions were filled by a total of 1,316 men during the pay period scheduled. The average customary full time of the men working in these positions was 6.4 turns per week, 11.6 hours per turn, and 74.4 hours per week. In the distribution of the customary working time of the 1,316 actual employees, 289, or 22 per cent, worked 84 hours per week, while 522, or 40 per cent, worked 72 hours per week.

The average hourly earnings of stockers ranged from 27.4 cents in the Southern district to 37.6 cents in the Great Lakes and Middle West district, with an average of 35.2 cents for all districts combined. The range for average full-time weekly earnings was from \$20.85 in the Southern district to \$27.94 in the Pittsburgh district, and the average for all districts was \$26.06.

Owing to the fact that a large number of the employees worked in more than one occupation during the pay period and in order to give the complete hours and earnings for such employees, separate figures are given which include all occupations at which they worked. While 1,316 men working as stockers averaged 96.9 hours per pay period, they also averaged 29.3 hours at other work, making a total of 126.2 average hours per pay period in specified (stocker) and other occupations. During the 96.9 hours they worked as stockers they earned an average of \$34.13, or 35.2 cents per hour. When the work of these men in all occupations is considered, they earned \$44.32—that is, \$10.19 was earned in some other occupation than stocker.

The average earnings per hour in the principal productive occupations in this department in 1922 ranged from 30.7 cents for iron handlers and loaders to 67.8 cents for blowers, and the average actual hours worked per pay period ranged from 72.6 for laborers to 125.7 for blowers. Employees who worked as larrymen's helpers earned the greatest amount at "other occupations." These employees earned an average of \$34 as larrymen's helpers and an additional \$17.54 at other work.

Iron handlers and loaders earned the least at other occupations, the amount being \$3.99.

TABLE C (1).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—BLAST FURNACES.

[For explanation of this table see p. 16.]

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.							Average full-time earnings per week.	Scheduled pay period (15 days).							
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupation.			Specified and other occupations.				
													Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.		
			Turns per week.	Hours per turn.	Hours per week.		Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.								84	
Stockers:																				
Eastern.....	4	75	6.9	11.4	79.1	108	.....	9	4	.....	48	47	\$27.37	109.9	\$38.03	\$0.346	144.7	\$50.13	\$0.346	
Pittsburgh.....	9	320	6.4	11.9	75.5	509	.....	45	183	.....	194	87	27.94	106.8	39.47	.370	123.8	45.63	.369	
G. L. and M. W.....	10	238	6.3	11.3	70.7	444	.....	5	45	.....	222	79	26.58	86.7	32.58	.376	125.0	47.34	.379	
Southern.....	8	138	6.6	11.6	76.1	255	.....	1	35	.....	117	.....	102	20.85	89.5	24.51	.274	125.4	33.97	.271
Total.....	31	771	6.4	11.6	74.4	1,316		40	15	129	522	321	289	26.06	96.9	34.13	.352	126.2	44.32	.351
Bottom fillers:																				
G. L. and M. W.....	3	92	6.8	10.4	70.2	149	.....	.....	.....	.....	44	.....	55	29.27	101.0	42.11	.417	124.2	51.78	.417
Southern.....	4	98	6.3	12.0	75.2	162	.....	.....	.....	.....	121	.....	41	20.00	108.8	28.96	.266	135.0	35.65	.264
Total.....	7	190	6.5	11.2	72.8	311		50	.....	.....	165	.....	96	24.44	105.1	35.26	.336	129.9	43.38	.334
Top fillers:																				
G. L. and M. W.....	3	24	6.8	9.0	60.0	32	.....	.....	.....	.....	9	.....	.....	32.94	99.4	54.54	.549	128.1	66.17	.517
Southern.....	4	29	6.3	12.0	76.1	54	.....	.....	.....	.....	37	.....	17	21.92	94.4	27.20	.288	137.7	38.39	.279
Total.....	7	53	6.5	10.6	68.8	86		23	.....	.....	46	.....	17	26.02	96.3	37.38	.388	134.1	48.73	.363
Larry men:																				
Eastern.....	4	25	7.0	11.9	83.5	31	.....	.....	.....	.....	4	27	34.49	129.6	53.55	.413	107.9	67.33	.401	
Pittsburgh.....	9	78	6.3	12.0	75.6	125	.....	.....	.....	.....	71	37	30.54	111.7	45.51	.408	154.0	61.50	.399	
G. L. and M. W.....	9	77	6.3	11.4	71.1	129	.....	15	.....	.....	91	11	30.57	101.1	43.43	.430	154.9	63.08	.411	
Southern.....	5	30	6.4	12.0	76.8	55	35	20	23.96	97.4	30.36	.312	149.0	44.23	.297
Total.....	27	210	6.4	11.8	75.1	340		15	197	52	76	29.96	107.0	43.00	.402	154.8	60.08	.388

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Larry men's helpers:																				
Eastern.....	4	25	7.0	11.9	83.5	40						3	37	31.06	102.3	38.01	.372	147.9	53.41	.361
Pittsburgh.....	9	103	6.4	12.0	76.5	175		1			93	40	41	28.08	106.0	38.88	.347	148.4	54.69	.368
G. L. and M. W.....	7	59	6.3	11.1	69.1	107	17			3	77	10		25.57	86.7	32.06	.370	141.0	52.84	.375
Southern.....	4	28	6.4	11.6	73.3	61				8	44		9	20.01	76.2	20.80	.273	142.4	39.02	.274
Total.....	24	215	6.4	11.7	74.9	383	17	1	11	214	53	87	26.40	95.5	34.00	.356	145.3	51.54	.335	
Skip operators:																				
Eastern.....	4	22	7.0	11.9	83.5	35						3	32	32.31	100.1	38.80	.387	165.9	61.42	.370
Pittsburgh.....	9	61	6.3	12.0	76.0	82				47	20	15	31.84	133.5	55.98	.419	139.0	66.05	.415	
G. L. and M. W.....	7	44	6.3	11.4	71.5	63	7			42	9	5	30.24	118.6	50.19	.423	152.2	63.29	.416	
Southern.....	5	24	6.3	12.0	76.0	40				28		12	24.93	108.3	35.56	.328	154.7	50.28	.325	
Total.....	25	151	6.4	11.8	75.8	220	7			117	32	64	30.20	119.4	47.88	.401	157.4	61.66	.392	
Blowers:																				
Eastern.....	4	16	7.0	11.6	81.4	17					7	10	46.24	155.0	88.01	.568	170.5	94.42	.554	
Pittsburgh.....	9	50	6.9	11.1	70.4	70	12			40	16	2	52.80	118.4	88.75	.750	149.9	104.26	.696	
G. L. and M. W.....	10	48	6.3	11.1	68.7	62	10			52			49.81	124.9	90.49	.725	146.1	101.42	.694	
Southern.....	9	33	6.4	12.0	76.4	46				29		17	43.17	127.0	71.73	.565	156.4	82.09	.525	
Total.....	32	147	6.6	11.4	72.4	195	22			121	23	29	49.00	125.7	85.22	.678	152.0	97.27	.640	
Blowing engineers:																				
Eastern.....	4	10	7.0	11.8	82.8	15					4	11	35.44	119.9	51.30	.428	168.5	68.24	.405	
Pittsburgh.....	9	42	6.9	12.0	75.8	61				32	20	9	39.11	122.8	63.41	.516	159.4	79.69	.500	
G. L. and M. W.....	10	65	6.2	11.4	70.6	91	11			71	4	5	36.64	118.1	61.26	.519	133.8	68.59	.513	
Southern.....	9	26	6.5	12.0	77.5	46				30		16	28.44	101.7	37.36	.367	150.6	53.06	.332	
Total.....	32	143	6.5	11.7	74.2	213	11			133	28	41	35.49	116.0	56.01	.483	147.2	68.39	.465	
Blowing engineers' assistants:																				
Eastern.....	3	6	7.0	11.7	82.0	10					4	6	28.78	109.3	38.31	.351	165.5	57.43	.347	
Pittsburgh.....	7	56	6.2	12.0	74.4	83				58	7	7	31.92	120.3	51.62	.429	158.4	67.38	.425	
G. L. and M. W.....	9	44	6.4	11.2	70.7	84	12			54	13	5	34.15	85.2	41.15	.483	120.3	56.41	.469	
Southern.....	5	18	6.2	12.0	74.7	36				31		5	22.63	90.0	27.28	.303	141.1	44.03	.312	
Total.....	24	124	6.3	11.7	73.5	213	12			143	35	23	31.08	100.8	42.75	.424	140.8	58.64	.417	
Stove tenders:																				
Eastern.....	4	20	7.0	11.9	83.4	28					2	21	33.36	146.3	58.50	.400	155.3	61.76	.398	
Pittsburgh.....	9	68	6.3	12.0	75.6	93				63	18	17	31.30	124.4	51.43	.414	102.8	66.63	.409	
G. L. and M. W.....	10	63	6.3	11.4	71.7	95	10			63	12	9	30.87	108.6	46.85	.432	144.7	61.77	.427	
Southern.....	9	37	6.3	12.0	75.9	63				45		18	25.65	106.0	35.83	.338	146.7	50.14	.342	
Total.....	32	188	6.4	11.8	75.2	279	10			171	33	65	30.08	116.6	46.95	.403	152.4	60.85	.399	

BLAST FURNACES.

TABLE C (1).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—BLAST FURNACES—Concluded.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.							Average full-time earnings per week.	Scheduled pay period (15 days).						
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupations.			Specified and other occupations.			
			Turns per week.	Hours per turn.	Hours per week.		Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.		84	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Keepers:																			
Eastern.....	4	22	7.0	11.9	83.5	33					3	30	\$33.73	107.6	\$43.51	\$0.404	153.2	\$60.79	\$0.397
Pittsburgh.....	9	68	6.3	12.0	75.6	97					60	23	34.55	126.2	57.63	.457	163.0	72.70	.446
G. L. and M. W.....	10	63	6.3	11.4	71.7	100	12				67	10	31.98	106.0	47.28	.446	151.7	66.49	.438
Southern.....	9	36	6.3	12.0	76.0	58					40		24.17	111.7	35.45	.318	153.2	47.10	.308
Total.....	32	189	6.4	11.8	75.3	288	12			167	36	73	31.47	114.1	47.95	.420	156.0	64.02	.410
Keepers' helpers:																			
Eastern.....	4	75	7.0	11.9	83.5	109					7	102	30.06	118.9	42.86	.360	145.5	51.80	.356
Pittsburgh.....	9	225	6.3	12.0	75.6	359				224	71	64	28.95	111.8	42.88	.383	146.2	55.74	.381
G. L. and M. W.....	10	198	6.3	11.3	70.8	368	48			249	50	21	37.90	90.6	35.68	.394	127.9	49.90	.390
Southern.....	9	213	6.4	11.8	76.2	342				28	190		20.12	105.6	27.91	.264	129.8	34.46	.266
Total.....	32	711	6.4	11.7	75.3	1,178	48			28	663	128	26.16	104.0	36.28	.349	135.6	47.38	.349
Iron handlers and loaders:																			
G. L. and M. W.....	2	13	6.5	10.9	70.9	22				7	15		28.93	92.1	37.53	.408	101.7	39.18	.385
Southern.....	6	230	6.4	11.0	70.3	364				46	136	175	21.23	100.7	30.37	.302	116.7	34.51	.296
Total.....	8	243	6.4	11.0	70.4	386				46	143	190	21.07	100.2	30.78	.307	115.8	34.77	.300
Pig-machine men:																			
Eastern.....	4	51	7.0	11.9	83.3	60					7	53	31.82	152.0	58.04	.382	162.8	62.15	.382
Pittsburgh.....	7	90	6.1	12.4	72.7	134	1	2		111	11	9	27.12	104.0	38.79	.373	127.6	47.61	.373
G. L. and M. W.....	9	101	6.5	10.6	67.8	166	45			97	6	18	27.59	92.3	37.53	.407	127.0	50.99	.402
Southern.....	3	19	6.4	12.0	76.4	23				14		9	21.54	142.3	40.14	.282	167.5	48.31	.288
Total.....	23	261	6.5	11.5	73.1	383	46	2		222	24	89	27.73	108.8	41.34	.380	135.2	51.39	.380

Cinder men:																				
Eastern.....	3	21	6.7	11.8	79.7	24					17	7	33.39	143.0	59.97	.419	159.0	65.35	.411	
Pittsburgh.....	7	36	6.3	11.8	73.5	59			9	34	12	4	26.83	100.2	36.55	.365	137.3	50.36	.367	
G. L. and M. W.....	10	84	6.4	10.6	68.1	122	28	21		46	2	25	27.17	97.2	38.80	.399	117.8	47.12	.400	
Southern.....	4	8	6.8	11.8	79.5	11		1		2		8	27.03	126.9	43.12	.340	149.8	49.42	.330	
Total.....	24	149	6.5	11.1	71.6	216	28	22	9	82	31	44	27.76	104.6	40.76	.390	129.3	50.15	.388	
Laborers:																				
Eastern.....	4	51	6.6	11.2	75.2	87		22	1			64	25.94	88.5	30.55	.345	119.0	40.67	.342	
Pittsburgh.....	9	194	6.3	11.0	69.7	399	18	93	55	133	35	65	24.81	71.2	25.30	.356	116.8	42.43	.363	
G. L. and M. W.....	10	183	6.3	10.6	66.1	410	56	87	12	183	1	71	24.72	60.9	22.78	.374	103.8	50.88	.490	
Southern.....	9	316	6.3	10.6	66.1	604		239	174	191			16.99	79.2	20.33	.257	101.7	26.69	.262	
Total.....	32	744	6.3	10.8	67.77	1,500	74	441	242	507	36	200	21.70	72.6	22.91	.315	107.3	38.30	.357	

32 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

Table D (1) shows the number of employees and the average and classified earnings per hour of keepers and laborers in 1922, by districts and all districts combined.

The average hourly earnings for keepers was 42 cents and for laborers 31.6 cents, and for the most part the earnings of employees did not vary more than 20 to 25 cents per hour. In some few instances, however, owing to unusual conditions, employees earned considerably more or less than the average.

TABLE D (1).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS—BLAST FURNACES.

[For explanation of this table see p. 17.]

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—										
			Under 16 cts.	16 and under 18 cts.	18 and under 20 cts.	20 and under 25 cts.	25 and under 30 cts.	30 and under 35 cts.	35 and under 40 cts.	40 and under 46 cts.	45 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.
			KEEPERS.										
Eastern.....	33	\$0.404								24	9		
Pittsburgh.....	97	.457									2	95	
Great Lakes and Middle West.....	100	.446									58	33	6
Southern.....	58	.318				3	12	31	9	3			
Total.....	288	.420				3	12	31	33	72	128	6	3
LABORERS.													
Eastern.....	87	.345						55	32				
Pittsburgh.....	399	.356						72	327				
Great Lakes and Middle West.....	410	.376						54	233	110	9	4	
Southern.....	604	.257	1	6	44	266	198	89					
Total.....	1,500	.316	1	6	44	266	198	270	592	110	9	4	

The customary turns per week, hours per turn, and full-time hours per week of those employees in the blast-furnace department who worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (1). As stated in the general explanation of this table (p. 17), data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (1).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BLAST FURNACES.

[This table includes only employees who worked but one combination of customary days and hours during pay period. For explanation of this table see p. 17.]

DAY TURNS.

Customary turns and hours worked.					Number of employees who worked each specified combination of customary turns and hours, by districts.									
Day turns.					Night turns.				East-ern.	Pitts-burgh.	Great Lakes and Middle West.	South-ern.	Total.	
Turns per week.	Hours.				Turns per week.	Hours.								
	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.		Mon-day to Fri-day.	Sat-ur-day.	Sun-day.						Per week.
7	12	12	12	84					33	16	7	26	82	
6	12	12	12	72										
7	12	12	12	84					4	10			14	
6	12	12		72										
7	12	12	12	84					1		5		6	
6	12	12		72										
7	12	12	11	83					16				16	
7	12	11	11	82					11				11	
6	12	11		71										
7	12	11	11	82					2				2	
7	11½	11½	11½	80½						1			1	
7	11½	9½	9½	76½						10			10	
7	11	11	11	77					9	10	1	3	23	
6	11	11	11	66						17			17	
7	11	11	11	77										
6	11	11		66					1		1		2	
7	11	11	11	77										
7	11	11	5½	71½						1			1	
6	11	9½	9½	63							8		8	
7	11	9½	9½	74										
7	11	9	9	73						1			1	
7	10½	10½	10½	73½						1	3		4	
7	10	10	10	70					23	39	30	379	471	
6	10	10	10	60										
7	10	10	10	70					12	19			31	
6	10	10		60							26	23	49	
7	10	10	10	70										
6	10	10		60								3	3	
7	10	10	10	70										
7	10	10	5	65					2				4	
7	10	10	4	64						2			2	
7	10	9	9	68						6			6	
6	10	5	5	50					1				1	
7	10	5	5	60								7	9	
7	9	9	9	63					2					
7	8	8	8	56							34		34	
6	8	8	8	48					2				2	
7	8	8	8	56										
6	12	12	12	72						6	4	174	184	
6	12			72					1	2	13	12	28	
6	12	11		71							3		3	

NIGHT TURNS.

				7	13	13	13	91		2		2	4
				6	13	13	13	78		1			1
				7	13	13	13	91					
				7	12	12	12	84	4	2	5	10	21
				6	12	12	12	72					
				7	12	12	12	84	3				3
				7	10	10	10	70				5	5
				6	13	13	13	78			5	1	6
				6	12	12	12	72		3	4	16	23
				6	12	12		72			1		1

34 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE E (1).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BLAST FURNACES—Continued.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

Customary turns and hours worked.										Number of employees who worked, each specified combination of customary turns and hours, by districts.				
Day turns.					Night turns.									
Turns per week.	Hours.				Turns per week.	Hours.				East ern.	Pitts- burgh.	Great Lakes and Middle West.	South- ern.	Total.
	Mon- day to Fri- day.	Sat- ur- day.	Sun- day.	Per week.		Mon- day to Fri- day.	Sat- ur- day.	Sun- day.	Per week.					
7	12	12	12	84	7	12	12	12	84	223	242	244	400	1,109
6	12	12	12	72	7	12	12	12	84					622
7	12	12	12	84	6	12	12	12	72	99	84	439		3
7	12	11	11	82	7	12	11	11	82	3				3
7	12	11	11	82	6	12	10		70	3				3
7	11½	11½	11½	80½	7	11½	11½	11½	80½		4			4
7	11	11	11	77	6	13	13	13	91	145	185		5	335
7	11	11	11	77	6	13	13	13	78		4			4
7	11	11	11	77	6	13	13		78		5			5
6	11	11	11	66	6	13	13	13	91					289
7	11	11	11	77	6	13	13	13	78		289			
7	11	11	11	77	7	11	11	11	77	3				3
7	10½	10½	10½	73½	7	13½	13½	13½	94½		61	6		67
7	10	10	10	70	7	13	13	12	90	4				4
7	10	10	10	70	7	14	14	14	98	18	14			32
6	10	10	10	60	7	14	14	14	98		71			71
7	10	10	10	70	6	14	14	14	84					
7	10	10	10	70	7	10	10	10	70			7	28	35
7	10	9	9	68	7	13	14	14	93		11			11
7	8	8	8	56	7	8	8	8	56			1		1
7	8	8	8	56	7	8	8	8	56			1		1
6	12	12	12	72	7	8	8	8	56		32	466	2	500
6	12	12	12	72	6	12	12	12	72		125	888	1,071	2,084
6	12	12	12	72	6	12	12	12	72			2		2
6	11	11	11	66	6	12	12	12	72			9		9
6	11	11	11	66	7	13	13	13	91		166			166
6	11	11	11	66	6	13	13	13	78		1,150	446		1,596
6	11	11	11	66	6	13	13		78		6			6
6	11	11	11	66	6	12	12	12	72			2		2
6	11	11	11	66	7	13	13	11	89		1			1
6	11	11	11	66	6	13	13		78		8			8
6	11	10	11	65	6	13	14	13	79		58			58
6	10½	10½	10½	63	6	13½	13½	13½	81			6		6
6	10	10	10	60	7	14	14	14	98		8			8
6	10	10	10	60	6	14	14	14	84		5	2		7
6	10	10	10	60	6	12	12	12	72		5	2		7
6	10	10	10	60	6	13	13	13	78		2			2
6	10	10	10	60	6	12	12	12	72			2		2

TABLE E (1).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—*BLAST FURNACES*—Concluded.

SUMMARY.

Item.	East- ern dis- trict.	Pitts- burgh dis- trict.	Great Lakes and Middle West dis- trict.	South- ern dis- trict.	Total.	Per cent of employ- ees who worked but one combina- tion of days and hours.
Total blast furnace employees.....	853	3,382	3,379	2,942	10,556	.....
Employees who worked—						
One combination of days and hours only.....	768	3,095	3,222	2,670	9,755	100
7-day week or straight or average day of 12 or more hours all or part of the time.....	625	2,695	2,664	2,167	8,151	84
7-day week all of the time.....	480	642	804	867	2,793	29
7-day week part of the time.....	144	683	471	26	1,324	14
Straight or average day of 12 or more hours all of the time.....	531	2,514	2,086	1,717	6,848	70
Straight or average day of 12 or more hours part of the time.....	39	252	9	.....	300	3
7-day week and straight or average day of 12 or more hours all of the time.....	423	522	262	443	1,650	17

Of the total number of blast-furnace employees reported, 9,755 worked but one combination of customary days and hours. Of these 9,755 employees, 8,151, or 84 per cent, regularly worked a 7-day week or a straight or average day of 12 or more hours all or part of the time, 1,025 working days only, 64 working nights only, and 7,062 alternating between day and night work. Seventy per cent (6,848) worked a straight or average day of 12 or more hours all of the time, and 17 per cent (1,650) regularly worked a 7-day week and a straight or average day of 12 or more hours all of the time.

BESSEMER CONVERTERS.

The 1922 survey includes 11 representative Bessemer converting plants, which employed 2,294 men in all occupations. The number of employees reported in 1922 is somewhat smaller than in 1920, as many of the plants were operating only part time and some were using only a portion of their full equipment. Of the total number of employees presented, 1,091 are found in the principal productive occupations for which separate figures are given. Some duplexing (a combination of the Bessemer and basic open-hearth processes) was done by a few of the establishments from which data were obtained, although there was only one plant which was engaged the majority of its time on this work. Data were first obtained for this department in 1907 and comparative figures are presented for the period 1907 to 1922.¹

Data for this department were first obtained for the year 1907, and since that time the regular working time of employees as a whole has changed very little. In 1907 the average full-time hours per week of employees in all selected occupations combined were 69.5, in 1913 68.1, in 1920 67.2, and in 1922 they were reduced to 66.5. During the same period, however, earnings more than doubled. In 1907 the average hourly earnings for employees in the same occupations was 25.7 cents per hour, in 1913 they had increased to 30.2 cents, and in 1920 an average of 72.7 cents per hour was reached. This marks the high point of wages in this department, and in the early part of 1921 they began to decline. The average for 1922 was 51.4 cents, which, while considerably less than the averages for 1919 and 1920, is still double the average for 1907 and much higher than that for 1913.

The average full-time weekly earnings followed very closely the course of average earnings per hour, as full-time hours per week were subject to only slight variations. When the earnings of all employees in all occupations are considered, the average per hour decreased from 67.7 cents in 1920 to 47 cents in 1922.

The most significant facts concerning average earnings and average hours in each of the principal productive occupations in this department for the years 1907 to 1922 are shown in Table A (2). When the average full-time hours of the 19 selected occupations are considered separately, 16 of them show an increase in average full-time hours per week in 1922 over 1920, 2 show a decrease, and 1 remains unchanged, while as a whole a slight decrease is shown. This is caused by the fact that laborers, one of the occupations in which a decrease occurred, comprise practically one-third of the employees reported in selected occupations. In 1907 laborers were working an average full time of 78 hours per week. This average decreased to 75.1 hours in 1913 and continued to decrease to 70.8 in 1919. It advanced to 74.9 in 1920 but again decreased to 70.7 in 1922.

¹ No data were collected for 1916, 1918, and 1921.

Average earnings per hour have decreased perceptibly in each of the occupations when 1922 is compared with 1919 and 1920, and in some cases the 1922 average is below that for 1917, but in all instances the 1922 figures represent a substantial increase over other years. When 1922 is compared with 1920, the year in which earnings reached the peak in all occupations, decreases in average hourly earnings ranged from 17.4 cents for laborers to 43.9 cents for stopper setters. The skilled occupations of blowers and vessel men were the least affected. In 1907 stopper setters received an average of 63 cents per hour. Wages during the next few years were subject to considerable fluctuation but the average remained below that for 1907 until 1917, when an average of 81.5 cents was reached. Due to war conditions wages rapidly advanced from that point to the high average of \$1.225 per hour in 1920. In 1922 the average for stopper setters decreased to 78.6 cents per hour.

The changes in full-time weekly earnings were approximately the same as in hourly earnings, as fluctuations in full-time hours were very slight as compared with the movement in earnings per hour.

In 1922 only 4 of the 19 selected occupations reported any employees who worked 84 hours per week, as shown by the percentage distribution of full-time hours per week. Twenty per cent of the cinder pitmen, 13 per cent of the ingot strippers, 6 per cent of the laborers, and 3 per cent of the stockers were reported as being on that basis.

Index numbers for full-time hours per week, earnings per hour, and full-time weekly earnings are also contained in Table A (2). These are simply percentages computed from the averages presented in the table, using the average for 1913 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 4.

TABLE A (2).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—BESSEMER CONVERTERS.¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Stockers:														
1907.....	9	371	62.5	\$0.246	\$14.27	100	74	75	46	5	8	7	22	12
1908.....	9	260	58.3	.275	14.93	98	83	78	58	11	10	10	10	12
1909.....	9	266	63.6	.264	15.31	102	80	80	43	6	2	12	23	15
1910.....	10	352	64.9	.266	16.03	104	80	84	32	9	8	19	6	26
1911.....	10	241	61.7	.233	13.60	99	70	71	46	6	1	24	11	12
1912.....	10	280	62.1	.306	17.38	99	92	91	45	9	1	6	8	15
1913.....	10	337	62.5	.331	19.05	100	100	100	23	21	1	9	27	13
1914.....	6	167	55.5	.351	18.59	89	106	98	63	6	1	1	22	7
1915.....	6	157	55.6	.313	16.70	89	95	88	61	5	4	1	20	8
1917.....	3	144	55.3	.599	31.45	88	181	165	69	5	4	1	31	.....
1919.....	6	196	64.6	.637	41.15	103	192	216	27	.....	8	65	.....	.....
1920.....	10	351	68.0	.699	47.33	109	211	248	18	2	.....	17	46	.....
1922.....	10	230	70.2	.409	28.71	112	124	151	2	3	6	14	71	.....

¹ This table was published in the Monthly Labor Review for June, 1923.

38 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE A (2).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—*BESSEMER CONVERTERS*—Continued.

Occupation and year.	Number of plants.	Number of employ-ees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earn-ings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60 and under 72.	72 and under 84.	84	
Cupola melters:														
1907.....	7	15	65.2	\$0.509	\$31.67	104	107	112	40		13	20	13	13
1908.....	7	15	64.7	.350	22.20	104	73	79	40		13	20	13	13
1909.....	7	15	64.7	.419	26.09	104	88	92	40		13	20	13	13
1910.....	7	16	60.6	.447	25.85	97	94	92	38	19		19	13	13
1911.....	8	17	65.2	.386	24.62	104	81	87	35		12	29	12	12
1912.....	8	18	61.6	.409	23.82	99	86	84	50		11	17	11	11
1913.....	8	19	62.4	.477	28.23	100	100	100	32	16	11	21	11	11
1914.....	6	15	59.5	.390	23.00	95	82	81	20	40	13	13	13	
1915.....	6	15	59.3	.449	25.90	95	94	92	20	40		27	13	
1917.....	3	7	61.7	.760	45.24	99	159	160	43			57		
1919.....	4	9	62.2	.993	61.76	100	208	219	33			67		
1920.....	6	22	61.7	1.063	65.85	99	223	233		45		32	23	
1922.....	4	15	65.3	.674	43.31	105	141	153		40		13	33	13
Cupola tappers:														
1907.....	8	50	60.5	.379	22.16	102	96	100	54		8	18	12	8
1908.....	8	43	59.3	.335	19.67	100	85	88	56		5	30	5	5
1909.....	8	43	61.5	.340	19.74	103	87	89	56			12	19	14
1910.....	8	56	58.9	.362	20.30	99	92	91	64			13	14	9
1911.....	9	45	60.4	.314	18.36	102	80	83	53			33	4	9
1912.....	9	48	60.6	.369	20.94	102	94	94	56		4	10	21	8
1913.....	9	69	59.5	.393	22.25	106	100	100	30	26	6	23	14	
1914.....	4	34	56.9	.286	16.47	96	73	74		71		29		
1915.....	4	24	55.8	.332	18.43	94	84	83		75		25		
1917.....	2	16	54.0	.677	34.85	91	172	157	75			25		
1919.....	5	29	60.2	.771	47.02	101	199	211	41		17	41		
1920.....	5	38	54.8	.979	53.76	92	249	242		68		18	13	
1922.....	3	11	60.3	.547	32.60	101	139	147		53		27	18	
Blowers:														
1907.....	9	20	65.4	.619	39.55	103	104	106	30		10	50	10	
1908.....	9	19	68.8	.466	32.41	109	78	87	16		11	63	11	
1909.....	9	19	68.8	.496	33.29	109	81	89	16		11	63	11	
1910.....	9	20	69.8	.536	37.00	110	90	99	15			60	15	10
1911.....	10	20	72.0	.493	35.48	114	82	95			10	90		
1912.....	10	21	69.1	.529	36.36	109	88	97	14		10	67	10	
1913.....	10	23	63.3	.598	37.33	100	100	100	26	13	9	35	7	
1914.....	12	27	64.1	.545	34.43	101	91	92	22	11	7	52	7	
1915.....	12	27	64.0	.561	35.61	101	94	95	22	11	7	52	7	
1917.....	8	18	64.0	.784	48.77	101	131	131	33			67		
1919.....	8	18	63.4	1.226	77.73	100	205	208	33		6	50	11	
1920.....	11	29	59.7	1.249	74.66	94	209	200	52		17	21	10	
1922.....	11	33	60.7	.951	57.94	96	159	155	39			12	48	
Regulators, first:														
1907.....	9	26	62.3	.437	27.28	92	97	90	46		8	31	8	8
1908.....	9	25	64.7	.266	17.78	96	59	59	36		16	32	8	8
1909.....	9	25	64.8	.344	22.97	96	76	76	36		8	40	8	8
1910.....	10	31	62.1	.408	25.45	92	90	84	19	29		39		13
1911.....	10	24	66.8	.377	24.79	99	84	82	25		17	50		8
1912.....	10	25	64.7	.411	26.24	96	91	87	36		16	32	8	8
1913.....	10	24	67.6	.451	30.28	100	100	100	25		8	33	33	
1914.....	11	24	63.8	.328	20.71	94	73	68	38		17	21	25	
1915.....	11	26	64.7	.351	22.91	96	78	76	35			35	31	
1917.....	8	17	66.8	.690	42.28	99	140	140	29			71		
1919.....	10	25	69.2	.864	59.79	102	192	197	16			12	52	20
1920.....	11	36	61.5	1.002	61.63	91	222	204	22	19		8	14	36
1922.....	11	32	64.3	.660	42.50	95	144	140	25			13	56	6

¹ Including 7 per cent whose full-time hours per week were 91.

TABLE A (2).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—BESSEMER CONVERTERS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Regulators, second:														
1907	6	18	65.3	\$0.427	\$27.81	96	108	104	33	.....	11	33	22	....
1908	6	14	73.5	.269	19.64	108	68	73	.....	.....	29	43	29	....
1909	6	14	73.8	.365	26.80	108	93	100	.....	.....	14	57	29	....
1910	8	22	67.5	.378	25.52	99	96	95	27	.....	9	45	.....	18
1911	8	21	65.0	.333	21.41	95	85	80	29	.....	19	52	.....	.....
1912	9	24	67.0	.381	25.63	98	97	96	25	.....	17	33	25	....
1913	10	28	68.3	.394	26.81	100	100	100	21	.....	14	29	36	....
1914	11	25	66.5	.289	18.90	97	73	70	24	.....	16	28	32	....
1915	11	26	66.6	.324	21.64	98	82	81	23	.....	8	46	23	....
1917	8	19	67.4	.516	34.62	99	181	129	42	.....	.....	58	.....	.....
1919	10	35	66.3	.754	49.99	97	191	186	14	9	.....	11	66	.....
1920	9	31	61.1	.966	58.84	89	245	219	42	10	.....	10	19	19
1922	9	30	66.8	.639	43.07	98	162	161	20	.....	17	63	.....	.....
Vessel men:														
1907	9	23	58.5	.793	44.58	101	107	107	52	13	.....	9	17	9
1908	9	22	61.1	.528	31.27	106	71	75	41	14	.....	18	18	9
1909	9	22	61.2	.630	37.19	106	85	90	41	14	.....	18	18	9
1910	10	26	57.8	.685	38.18	100	92	92	46	23	.....	15	.....	13
1911	10	25	59.1	.580	32.45	102	78	78	48	12	.....	24	8	8
1912	10	26	58.3	.688	38.60	101	92	93	35	35	.....	8	15	8
1913	10	26	57.8	.744	41.52	100	100	100	23	46	.....	15	15	.....
1914	12	31	55.6	.499	27.64	98	67	67	29	48	.....	19	6	.....
1915	12	32	56.0	.554	30.87	97	74	74	28	47	.....	.....	60	.....
1917	8	30	61.9	.894	53.29	107	120	128	40	.....	.....	5	38	10
1919	9	21	60.2	1.114	67.06	104	150	162	48	.....	.....	6	10	.....
1920	11	34	56.3	1.273	71.00	97	171	171	26	56	.....	6	12	.....
1922	11	39	56.5	.897	50.59	98	121	122	33	38	.....	5	23	.....
Vessel men's helpers:														
1907	9	47	57.0	.566	31.84	101	107	109	51	19	.....	9	17	4
1908	9	45	59.5	.376	21.65	105	71	74	40	20	.....	18	18	4
1909	9	45	59.6	.484	28.24	106	92	97	40	20	.....	18	18	4
1910	10	53	56.5	.506	28.22	100	96	97	45	28	.....	15	.....	11
1911	10	51	57.6	.421	23.48	102	80	81	47	18	.....	24	8	4
1912	10	53	56.5	.467	25.70	100	88	88	45	28	.....	8	15	4
1913	10	53	56.4	.528	29.15	100	100	100	34	40	.....	8	11	8
1914	12	57	54.3	.342	18.42	96	65	63	37	42	.....	7	14	.....
1915	12	56	55.5	.383	21.18	98	73	73	32	43	.....	.....	25	.....
1917	8	45	56.5	.654	35.94	100	124	123	60	.....	.....	40	.....	.....
1919	11	71	62.4	.875	54.60	111	166	187	35	6	.....	11	38	10
1920	11	75	58.7	.984	56.86	104	186	195	24	40	.....	16	9	11
1922	11	82	57.9	.646	37.51	103	122	129	35	32	.....	10	23	.....
Cinder pit-men:														
1907	8	118	67.9	.206	13.32	101	87	86	20	.....	37	32	3	7
1908	8	71	65.9	.173	11.27	98	73	72	30	.....	17	39	14	.....
1909	8	92	68.4	.178	11.88	102	75	76	23	.....	25	33	11	9
1910	9	85	67.6	.211	13.69	100	89	88	7	18	.....	54	12	9
1911	9	62	69.8	.199	13.55	104	84	87	10	.....	26	55	10	.....
1912	9	99	68.1	.200	13.23	101	84	85	21	.....	.....	46	30	2
1913	9	113	67.3	.238	15.56	100	100	100	24	.....	.....	42	32	2
1914	9	52	71.9	.213	15.30	107	89	98	.....	.....	35	58	8	.....
1915	9	48	72.0	.214	15.42	107	90	99	.....	.....	13	79	8	.....
1917	5	62	72.0	.325	22.40	107	137	150	.....	.....	.....	100	.....	.....
1919	10	100	69.7	.678	40.29	104	243	259	8	3	.....	3	80	6
1920	9	144	72.8	.562	43.11	108	249	277	9	.....	2	5	28	29
1922	10	137	74.1	.388	28.73	110	163	185	2	.....	.....	69	9	20

40 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE A (2).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—*BESSEMER CONVERTERS*—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84
Bottom makers:															
1907	9	17	73.4	\$0.386	\$28.10	99	101	100				12	65	24	
1908	9	17	72.4	.283	20.45	98	74	73				24	65	12	
1909	9	16	73.1	.351	25.57	99	91	91				13	69	19	
1910	10	19	73.4	.346	25.28	99	90	90					79	11	11
1911	10	19	71.8	.337	24.18	97	88	86				21	79		
1912	10	20	72.5	.345	24.96	98	90	89					20	50	10
1913	10	20	73.8	.384	28.05	100	100	100					20	50	20
1914	12	22	73.0	.283	21.34	99	76	76				18	64	9	10
1915	12	22	73.0	.332	24.02	99	86	86				18	64	9	9
1917	8	16	72.0	.510	36.73	98	133	131					100		
1919	11	21	67.1	.781	52.41	91	203	187	14	10		10	62		5
1920	11	25	64.8	.911	59.57	88	237	212	20	8		28	44		
1922	11	24	66.8	.583	38.79	91	152	138	17			29	54		
Bottom makers' helpers:															
1907	9	30	73.5	.257	18.82	101	101	101				27	47	27	
1908	9	27	72.2	.204	14.75	99	80	79				26	67	7	
1909	9	29	73.1	.234	17.08	100	92	92				28	52	21	
1910	10	34	72.8	.235	17.10	100	92	92					88	6	6
1911	10	31	72.2	.234	16.88	99	92	91					32	65	3
1912	10	39	72.4	.224	16.19	99	88	87					31	59	10
1913	10	40	73.1	.255	18.59	100	100	100					30	45	20
1914	12	39	72.4	.225	16.29	99	88	88					31	54	10
1915	12	38	72.6	.237	17.30	99	94	93					16	65	5
1917	8	30	72.0	.377	27.13	99	148	146					100		5
1919	11	49	69.6	.602	41.90	95	236	225	10	4		12	65		8
1920	11	60	66.2	.695	46.27	91	273	249	25			37	38		
1922	11	51	68.3	.455	31.26	93	178	168	16			27	57		
Ladle liners:															
1907	9	21	65.1	.454	28.95	95	110	103	29		5	10	48	10	
1908	9	21	65.6	.306	19.78	95	74	70	29		5	19	38		10
1909	9	21	65.1	.392	25.22	95	95	89	29		5	10	48	10	
1910	10	25	66.8	.378	25.05	97	91	89	24		4	17	56	8	8
1911	10	24	68.3	.342	22.85	99	83	81	13		4	17	67		
1912	10	24	68.9	.369	24.95	100	89	88	13		4	17	58	8	
1913	10	22	68.7	.418	28.22	100	100	100	14		5	13	45	18	
1914	12	25	68.6	.304	20.77	100	73	74		12	4	16	60	8	
1915	12	26	68.8	.344	23.47	100	83	83		12	4	15	62	8	
1917	8	15	71.2	.583	41.45	104	141	147		7	7	7	93		
1919	11	28	69.8	.779	54.37	102	188	193	7	11		7	50	25	
1920	11	31	65.0	.929	59.85	95	224	212	29			16	39	16	
1922	11	29	67.4	.617	42.49	98	148	151	17			7	76		
Ladle liner's helpers:															
1907	9	39	68.2	.255	16.65	96	103	97	15		3	26	51	5	
1908	9	31	67.5	.209	13.79	95	85	81	19		3	32	39		6
1909	9	39	68.5	.230	15.26	97	93	89	15		3	26	46	10	
1910	10	39	68.7	.236	15.73	97	96	92	15		3	26	67	10	5
1911	10	34	69.1	.233	15.75	97	94	92	9		3	31	47		
1912	10	34	69.6	.228	15.43	98	92	90	9		3	31	41	6	
1913	9	38	70.9	.247	17.09	100	100	100	8		3	37	21	32	
1914	11	34	69.1	.222	15.24	97	90	89		9	3	41	41	6	
1915	11	34	69.5	.233	15.91	98	94	93		9	3	24	59	6	
1917	8	34	71.3	.365	26.03	101	148	152		6	6	8	94		
1919	11	76	71.7	.551	39.51	101	223	231	3	5		8	66	18	
1920	10	43	69.9	.680	47.68	99	275	279	5		7	26	49	14	
1922	10	62	71.8	.442	31.05	101	179	182				15	85		

TABLE A (2).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—BESSEMER CONVERTERS—Continued.

Occupation and year.	Number of plants.	Number of employ-ees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Stopper makers:														
1907.....	9	10	72.8	\$0.316	\$23.01	103	105	108	.....	20	.....	40	30	10
1908.....	9	9	72.9	.223	16.10	103	74	76	.....	22	.....	44	11	22
1909.....	9	9	71.6	.270	19.22	101	89	90	.....	22	22	22	11	22
1910.....	10	12	73.0	.260	19.14	103	86	90	.....	8	.....	75	.....	17
1911.....	10	10	72.0	.273	19.53	102	90	92	.....	20	.....	60	.....	20
1912.....	10	10	70.8	.272	18.91	100	90	89	.....	30	.....	50	.....	20
1913.....	10	10	70.6	.302	21.25	100	100	100	.....	10	10	80	.....	.....
1914.....	12	12	70.2	.251	17.60	99	83	83	.....	8	33	58	.....	.....
1915.....	12	12	69.7	.263	18.13	99	87	85	.....	17	8	75	.....	.....
1917.....	8	10	67.8	.433	29.15	96	143	137	.....	20	39	50	.....	.....
1919.....	11	15	69.6	.660	45.94	99	219	216	.....	13	7	53	7	13
1920.....	11	12	65.0	.718	46.73	92	238	220	.....	25	8	50	8	.....
1922.....	10	12	66.4	.459	30.52	94	152	144	.....	25	8	42	8	.....
Stopper setters:														
1907.....	9	45	51.5	.630	31.79	100	114	113	87	.....	.....	9	4	.....
1908.....	9	40	54.3	.343	18.50	105	62	66	75	.....	.....	20	5	.....
1909.....	9	34	55.4	.552	29.36	107	100	105	71	.....	.....	24	6	.....
1910.....	10	39	52.6	.577	29.81	102	104	106	69	15	.....	10	.....	5
1911.....	10	39	55.3	.498	26.08	107	90	93	69	.....	.....	31	.....	.....
1912.....	10	42	51.7	.496	25.36	100	90	91	86	.....	.....	10	5	.....
1913.....	10	43	51.6	.553	28.01	100	100	100	86	.....	.....	9	5	.....
1914.....	12	44	50.7	.376	19.03	98	68	68	68	20	.....	11	.....	.....
1915.....	12	42	51.5	.423	21.76	100	76	78	71	14	.....	14	.....	.....
1917.....	8	40	49.6	.815	40.03	96	147	143	90	.....	.....	10	.....	.....
1919.....	11	46	53.7	1.092	58.64	104	197	209	67	9	.....	2	15	7
1920.....	11	50	51.0	1.225	61.45	99	222	219	88	.....	.....	8	4	.....
1922.....	11	43	52.3	.786	40.98	101	142	146	84	.....	.....	16	.....	.....
Steel pourers:														
1907.....	9	29	55.4	.693	36.39	99	108	106	72	.....	.....	14	14	.....
1908.....	9	28	57.4	.439	24.25	103	69	71	64	.....	.....	21	14	.....
1909.....	9	28	57.5	.576	31.61	103	90	92	64	.....	.....	21	14	.....
1910.....	10	32	55.6	.617	32.74	100	96	95	66	9	.....	13	.....	13
1911.....	10	30	55.1	.535	27.91	99	84	81	70	.....	.....	30	.....	.....
1912.....	10	34	55.7	.570	30.65	100	89	89	71	.....	.....	18	.....	.....
1913.....	10	34	55.7	.640	34.39	100	100	100	71	.....	.....	18	12	.....
1914.....	12	37	52.5	.444	23.42	94	69	68	57	24	.....	19	.....	.....
1915.....	12	35	53.5	.525	27.96	96	82	81	60	17	.....	23	.....	.....
1917.....	8	27	52.7	.849	43.62	95	133	127	78	.....	.....	21	.....	.....
1919.....	10	30	56.5	1.110	62.72	101	173	182	63	.....	3	27	7	.....
1920.....	11	38	52.9	1.326	69.30	95	207	202	79	.....	.....	16	5	.....
1922.....	10	35	52.9	.905	47.31	95	141	138	80	.....	.....	20	.....	.....
Mold cappers:														
1907.....	8	48	54.5	.347	18.02	92	96	89	75	.....	.....	17	8	.....
1908.....	8	39	53.7	.196	10.57	90	54	52	77	.....	.....	18	5	.....
1909.....	8	43	54.0	.271	14.26	91	75	70	77	.....	.....	14	9	.....
1910.....	9	52	57.0	.314	16.96	96	87	84	23	46	.....	19	4	8
1911.....	9	37	64.2	.282	17.36	108	78	86	32	.....	.....	62	5	.....
1912.....	10	52	61.5	.301	17.23	103	84	85	46	.....	12	27	15	.....
1913.....	10	61	59.5	.360	20.28	100	100	100	54	.....	10	23	13	.....
1914.....	10	39	60.8	.260	15.67	102	72	77	38	8	.....	54	.....	.....
1915.....	10	40	60.9	.294	17.53	102	82	86	38	8	10	45	.....	.....
1917.....	5	29	54.6	.631	33.01	92	175	163	72	.....	.....	28	.....	.....
1919.....	9	55	61.5	.688	42.31	103	191	209	29	20	.....	36	15	.....
1920.....	9	70	58.0	.755	43.56	97	210	215	64	.....	.....	29	7	.....
1922.....	10	49	58.1	.572	33.16	98	159	164	61	.....	8	24	6	.....

42 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE A (2).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—BESSEMER CONVERTERS—Concluded.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Ingot strip-pers:														
1907.....	9	29	67.4	\$0.310	\$19.60	96	93	86	31	.....	14	21	21	14
1908.....	9	28	68.4	.238	16.34	98	71	72	21	.....	14	21	21	36
1909.....	9	28	70.2	.264	18.17	100	79	80	21	.....	14	21	21	21
1910.....	10	31	68.1	.303	19.69	97	91	86	10	19	.....	32	19	19
1911.....	10	27	70.4	.282	19.26	101	84	84	11	.....	22	44	22	.....
1912.....	10	28	68.8	.320	20.90	98	96	92	11	11	.....	14	29	36
1913.....	10	28	69.9	.334	22.81	100	100	100	21	.....	7	21	50	.....
1914.....	12	29	66.0	.313	20.11	94	94	88	21	10	.....	7	23	28
1915.....	12	31	66.2	.332	21.39	95	99	94	19	10	.....	39	32	.....
1917.....	8	33	68.7	.479	31.71	98	143	139	.....	18	.....	64	7	12
1919.....	10	36	65.3	.726	47.41	93	217	208	8	25	.....	14	47	6
1920.....	11	34	59.1	.892	52.56	85	267	230	41	24	.....	6	29	.....
1922.....	11	39	65.5	.613	39.90	94	184	175	15	18	.....	10	38	5
Laborers:														
1907.....	9	801	78.0	.155	12.12	104	81	84	.....	(*)	3	21	33	42
1908.....	9	425	76.2	.155	11.80	101	81	82	.....	6	8	31	22	34
1909.....	9	564	76.9	.151	11.62	102	79	81	.....	2	1	4	25	30
1910.....	10	786	77.8	.163	12.69	104	85	88	.....	3	2	35	20	* 41
1911.....	10	593	74.6	.166	12.39	99	86	86	.....	5	4	43	36	12
1912.....	10	626	75.7	.167	12.64	101	87	88	.....	(*)	3	5	39	28
1913.....	10	681	75.1	.192	14.38	100	100	100	.....	1	1	6	40	33
1914.....	12	546	74.0	.193	14.27	99	101	99	.....	(*)	7	8	47	13
1915.....	12	496	74.3	.193	14.31	99	101	100	.....	8	9	45	10	28
1917.....	8	493	73.4	.296	21.92	98	155	152	.....	2	2	67	29	.....
1919.....	11	691	70.8	.489	34.62	94	255	241	.....	5	5	24	34	31
1920.....	10	726	74.9	.537	40.17	100	280	279	.....	4	2	25	19	24
1922.....	11	454	70.7	.363	25.64	94	189	178	.....	10	1	15	67	2

* Including 7 per cent whose full-time hours per week were 91.

* Less than 1 per cent.

The number of employees reported in 1922 includes some duplications, or repeated employees, as stated in the general explanation of Table B (p. 15). Of the 1,216 employees reported in selected occupations for all districts combined there were 125 duplications, leaving 1,091 actually engaged, and the total of 2,451 employees shown for all occupations represents 2,294 individuals.

The gross number of employees reported, together with the net number of actual employees, for selected occupations and for all occupations, in each district and in all districts combined, are shown in Table 9.

TABLE 9.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS, BY DISTRICTS, 1922—BESSEMER CONVERTERS.

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number.
Pittsburgh.....	687	63	624	1,394	85	1,309
Great Lakes and Middle West.....	529	62	467	1,057	72	985
Total.....	1,216	125	1,091	2,451	157	2,294

The customary working time per week of employees in the Bessemer converting department for the years 1907 to 1922 has been classified, and the number and per cent of employees coming under each classification are shown in Table B (2).

The working time of employees in the Bessemer converting department does not show as wide a variation of days or turns per week as most of the other departments, practically all of the employees working either 6 days, 7 days, or 6 days and 7 days alternately. The heading in Table B (2) "6 days and 7 days alternately" indicates that the plants were running 6 days and 7 nights or 7 days and 6 nights each week, being shut down one day or one night each week, and that the employees reported under this heading worked 6 turns one week and 7 turns the next. In 1922, 83 per cent of the employees in the selected occupations of Bessemer converters worked 6 days per week. This is the largest percentage for any year reported except 1917, when 85 per cent worked 6 days. In 1922, 6 per cent of the employees in selected occupations regularly worked 7 days per week, as compared with 23 per cent in 1920.

When all occupations are considered, 81 per cent worked 6 days per week, as compared with 59 per cent in 1920. As 6-day work increased, 7-day work declined, and the 10 per cent in 1922 is the smallest percentage shown in any year for which data are presented.

TABLE B (2).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK, IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1907 TO 1922, BY YEARS—BESSEMER CONVERTERS.

[For explanation of this table see p. 15.]

District.	Year.	Number of plants.	Number of employees. ¹	Number of employees whose customary working time per week was—					Per cent of employees whose customary working time per week was—					
				6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	
PITTSBURGH.														
Selected occupations.	1907	6	1,325	999	53	.....	.....	273	75	4	.....	.....	21
	1908	6	896	727	42	.....	.....	127	81	5	.....	.....	14
	1909	6	992	778	44	.....	.....	170	78	4	.....	.....	17
	1910	6	1,248	827	18	78	.....	325	66	1	6	.....	26
	1911	6	950	765	36	3	.....	146	81	4	(²)	.....	15
	1912	6	1,037	808	54	12	9	159	77	5	1	.....	15
	1913	6	1,176	890	52	69	12	153	76	4	6	.....	13
	1914	7	914	674	29	57	6	148	74	3	6	.....	16
	1915	7	869	638	21	51	6	153	73	2	6	.....	18
	1917	5	826	668	102	6	.....	50	81	12	1	.....	6
	1919	6	1,119	872	175	.....	.....	72	78	16	.....	.....	6
	1920	6	1,038	734	23	31	.....	250	71	2	3	.....	24
	1922	6	687	584	11	21	5	66	85	2	3	.....	10
All occupations.....	1914	7	1,500	1,061	75	67	6	291	71	5	4	(²)	19	
	1915	7	1,463	1,044	65	61	6	287	71	4	4	(²)	20	
	1920	6	1,900	1,136	138	42	.....	584	60	7	2	.....	31
	1922	6	1,394	1,078	61	23	5	227	77	4	2	(²)	16	

¹ The figures in this column for the years 1907 to 1917 represent the number of jobs, and for the years 1919, 1920, and 1922 the actual number of men employed.

² Less than 1 per cent.

44 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE B (2).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1907 TO 1922, BY YEARS—*BESSEMER CONVERTERS*—Concluded.

District.	Year.	Number of plants.	Number of employees.	Number of employees whose customary working time per week was—					Per cent of employees whose customary working time per week was—				
				6 days	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days	6 days	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days
GREAT LAKES AND MIDDLE WEST.													
Selected occupations.	1907	3	432	74	177	18	12	151	17	41	4	3	35
	1908	3	283	88	71	18	12	94	31	25	6	4	33
	1909	3	360	63	142	18	12	125	18	39	5	3	35
	1910	4	482	173	48	18	12	231	36	10	4	3	48
	1911	4	400	275	44	18	12	51	69	11	5	3	13
	1912	4	457	225	136	20	.....	76	49	30	4	.....	17
	1913	4	485	325	114	20	.....	26	67	24	4	.....	5
	1914	5	345	343	2	.....	.....	.....	99	1	.....	.....	.....
	1915	5	318	316	2	.....	.....	.....	99	1	.....	.....	.....
	1917	5	259	259	.....	.....	.....	.....	100	.....	.....	.....	.....
	1919	5	432	353	.....	74	.....	5	82	.....	17	.....	1
	1920	5	585	299	.....	97	43	19	127	51	17	.....	3
	1922	5	529	427	.....	49	49	4	81	.....	9	9	22
All occupations.....	1914	5	767	757	4	.....	.....	6	99	1	.....	.....	1
	1915	5	755	740	2	.....	.....	13	98	(²)	.....	.....	2
	1920	5	1,259	714	192	60	52	241	57	15	5	4	19
	1922	5	1,057	899	.....	69	70	19	85	.....	7	7	2
TOTAL.													
Selected occupations.	1907	9	1,757	1,073	230	18	12	424	61	13	1	1	24
	1908	9	1,179	815	113	18	12	221	69	10	2	1	19
	1909	9	1,352	841	186	18	12	295	62	14	1	1	22
	1910	10	1,730	1,000	66	96	12	556	58	4	6	1	32
	1911	10	1,350	1,040	80	21	12	197	77	6	2	1	15
	1912	10	1,494	1,028	190	32	9	235	69	13	2	1	16
	1913	10	1,661	1,215	166	89	12	179	73	10	5	1	11
	1914	12	1,259	1,017	31	57	6	148	81	2	5	(²)	12
	1915	12	1,187	954	23	51	6	153	80	2	4	1	13
	1917	8	1,085	927	102	6	.....	50	85	9	1	.....	5
	1919	11	1,551	1,225	175	74	.....	77	79	11	5	.....	5
	1920	11	1,623	1,033	120	74	19	377	64	7	5	1	23
	1922	11	1,216	1,011	11	70	54	70	83	1	6	4	6
All occupations.....	1914	12	2,267	1,818	79	67	6	297	80	3	3	(²)	13
	1915	12	2,218	1,784	67	61	6	300	80	3	3	(²)	14
	1920	11	3,159	1,850	330	102	52	825	59	10	3	2	26
	1922	11	2,451	1,977	61	92	75	246	81	2	4	3	10

² Less than 1 per cent.

Table C (2) presents the most significant facts relative to customary and actual working time, actual earnings per pay period, and earnings per hour of employees in the Bessemer converting department, by occupations and districts, for the year 1922. In addition, for each occupation are shown the number of positions and the number of employees actually working during the pay period and also the time and earnings of the same employees during the same period at occupations other than the occupation specified.

Taking the occupation of first regulators, for example, 24 positions were filled by 32 employees during the scheduled pay period of one-half month. The average customary full time of the men working as first regulators was 6 turns per week, 10.6 hours per turn, and 64.3 hours per week. Of the 32 actual employees 18, or 56 per cent, customarily worked 72 hours per week, while 12, or 38 per cent, worked under 72 hours. The average hourly earnings of first regulators in the Pittsburgh and Great Lakes and Middle West districts combined were 65 cents, while the full-time weekly earnings were \$46.85 in the Pittsburgh district and \$36.90 in the Great Lakes and Middle West district.

Owing to the fact that a large number of the employees worked in more than one occupation during the pay period and in order to give the complete hours and earnings for such employees, separate figures are presented which include all occupations at which they worked. While 32 men working as first regulators averaged 96.8 hours per pay period, they also averaged 28.4 hours at other work, making a total of 125.2 average hours per pay period in specified (first regulators) and other occupations. During the 96.8 hours they worked as first regulators they earned an average of \$62.96, or 65 cents per hour. When the work of these men in all occupations in which they were engaged is considered, they earned \$78.56—that is, \$15.60 was earned in some occupation other than first regulators—and their hourly average earnings dropped to 62.8 cents.

The average earnings per hour in the principal productive occupations of this department in 1922 ranged from 36.3 cents for laborers to 95.1 cents for blowers, and the average actual hours worked per pay period ranged from 48.5 hours for laborers to 121 for ingot strippers.

In only two occupations were the average hourly earnings for specified and other occupations greater than the average earnings per hour in the specified occupation.

TABLE C (2).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—*BESSEMER CONVERTERS*.

[For explanation of this table see p. 16.]

Occupation and district.	Num-ber of plants.	Positions.			Employees working in scheduled pay period.								Average full-time earnings per week.	Scheduled pay period (15 days).						
		Number.	Average customary full time of employ-ees in the positions.			Number.	Number whose customary full-time hours per week were—					Specified occupation.			Specified and other occupations.					
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.		84	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Stockers:																				
Pittsburgh.....	5	120	5.9	11.9	70.4	157	5	.....	14	33	97	.....	8	\$29.08	97.5	\$40.30	\$0.413	130.6	\$52.77	\$0.404
G. L. and M. W.....	5	51	6.1	11.5	69.8	73	.....	7	.....	.....	66	.....	.....	27.92	93.4	37.38	.400	131.4	52.56	.400
Total.....	10	171	6.0	11.8	70.2	230	5	.....	14	33	163	.....	8	28.71	96.2	39.37	.409	130.8	52.70	.403
Cupola melters:																				
Pittsburgh.....	3	6	6.0	11.7	70.5	9	.....	.....	.....	2	5	2	.....	47.80	93.8	63.66	.678	132.1	80.78	.611
G. L. and M. W.....	1	3	6.7	8.3	55.0	6	.....	6	.....	.....	.....	.....	.....	36.58	57.4	38.16	.665	125.4	66.29	.529
Total.....	4	9	6.2	10.6	65.3	15	.....	6	.....	2	5	2	.....	43.31	79.3	53.46	.674	129.4	74.98	.579
Cupola tappers:																				
Pittsburgh.....	2	3	5.7	11.6	65.7	5	.....	.....	.....	3	2	.....	.....	33.18	59.9	30.27	.505	145.3	64.63	.445
G. L. and M. W.....	1	3	6.7	8.3	55.0	6	.....	6	.....	.....	.....	.....	.....	32.12	55.8	32.54	.584	129.9	60.37	.465
Total.....	3	6	6.2	9.9	60.3	11	.....	6	.....	3	2	.....	.....	32.60	57.6	31.51	.547	136.9	62.31	.455
Blowers:																				
Pittsburgh.....	6	14	6.0	10.3	61.6	19	7	.....	.....	4	8	.....	.....	59.38	98.9	95.35	.964	121.9	115.24	.945
G. L. and M. W.....	5	12	6.0	10.0	59.8	14	6	.....	.....	.....	8	.....	.....	55.97	109.2	102.14	.936	128.0	115.36	.901
Total.....	11	26	6.0	10.1	60.7	33	13	.....	.....	4	16	.....	.....	57.94	103.3	98.23	.951	124.5	115.29	.926

Regulators, first:																			
Pittsburgh.....	6	12	6.1	11.3	68.8	18	2												
G. L. and M. W.....	5	12	6.0	10.0	59.8	14	6												
Total.....	11	24	6.0	10.6	64.3	32	8												
Regulators, second:																			
Pittsburgh.....	5	12	6.0	11.3	67.8	20	3												
G. L. and M. W.....	4	7	6.0	10.9	65.1	10	3												
Total.....	9	19	6.0	11.1	66.8	30	6												
Vessel men:																			
Pittsburgh.....	6	16	6.1	8.5	51.9	22	13	7											
G. L. and M. W.....	5	12	6.3	10.0	62.8	17		8											
Total.....	11	28	6.2	9.2	56.5	39	13	15											
Vessel men's helpers:																			
Pittsburgh.....	6	35	6.1	8.7	52.9	52	29	15											
G. L. and M. W.....	5	19	6.2	11.0	67.1	30		11											
Total.....	11	54	6.1	9.5	57.9	82	29	26											
Cinder pitmen:																			
Pittsburgh.....	5	53	6.4	11.8	75.9	96	1												
G. L. and M. W.....	5	24	6.0	11.7	70.0	41	2												
Total.....	10	77	6.3	11.8	74.1	137	3												
Bottom makers:																			
Pittsburgh.....	6	12	6.0	11.9	71.5	14													
G. L. and M. W.....	5	8	6.0	9.9	59.6	10	4												
Total.....	11	20	6.0	11.1	66.8	24	4												
Bottom makers' helpers:																			
Pittsburgh.....	6	20	6.0	11.9	71.5	30													
G. L. and M. W.....	5	16	6.0	10.7	64.3	21	8												
Total.....	11	36	6.0	11.4	68.3	51	8												
Ladle liners:																			
Pittsburgh.....	6	12	6.0	12.0	71.8	18													
G. L. and M. W.....	5	10	6.0	10.4	62.1	11	5												
Total.....	11	22	6.0	11.2	67.4	29	5												

TABLE C (2).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—BESSEMER CONVERTERS—Concluded.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.								Average full-time earnings per week.	Scheduled pay period (15 days).						
		Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupation.			Specified and other occupations.					
		Number.	Turns per week.	Hours per turn.		Hours per week.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.		84	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Ladle liners' helpers:																				
Pittsburgh.....	6	21	6.0	12.0	71.7	33			9	24			\$33.84	88.7	\$41.88	\$0.472	136.0	\$61.07	\$0.449	
G. L. and M. W.....	4	12	6.0	12.0	72.0	29				29			27.86	56.0	21.68	.387	134.5	51.44	.382	
Total.....	10	33	6.0	12.0	71.8	62			9	53			31.05	73.4	32.43	.442	135.3	56.56	.418	
Stopper makers:																				
Pittsburgh.....	6	6	6.2	10.8	66.7	6		3	1	1	1		30.28	126.5	57.40	.454	127.7	57.80	.453	
G. L. and M. W.....	4	4	6.0	11.0	66.0	6	2			4			30.76	89.8	41.78	.466	124.2	56.33	.454	
Total.....	10	10	6.1	10.9	66.4	12	2	3	1	5	1		30.52	108.1	49.59	.459	125.9	57.07	.453	
Stopper setters:																				
Pittsburgh.....	6	22	6.0	8.0	48.0	27	27						42.82	77.6	69.27	.892	93.9	84.10	.895	
G. L. and M. W.....	5	11	6.0	10.1	60.8	16	9			7			37.88	85.9	53.54	.623	113.1	71.12	.629	
Total.....	11	33	6.0	8.7	52.3	43	36			7			40.98	80.7	63.42	.786	101.1	79.27	.784	
Steel pourers:																				
Pittsburgh.....	6	17	6.0	8.0	48.0	19	19						49.78	83.1	86.15	1.037	100.1	98.42	.983	
G. L. and M. W.....	4	12	6.0	10.0	59.8	16	9			7			44.37	80.2	59.55	.742	114.7	79.11	.690	
Total.....	10	29	6.0	8.8	52.9	35	28			7			47.31	81.8	73.99	.905	106.8	89.59	.839	

Mold cappers:																						
Pittsburgh.....	5	18	6.0	9.3	55.9	24	17				4			3		34.99	78.9	49.41	.626	119.5	65.76	.550
G. L. and M. W.....	5	17	6.0	10.1	60.4	25	13							12		31.41	78.5	40.83	.520	123.2	60.13	.488
Total.....	10	35	6.0	9.7	58.1	49	30				4			12		83.16	78.7	45.03	.572	121.4	62.89	.514
Ingot strippers:																						
Pittsburgh.....	6	18	6.2	10.2	63.2	20	3	5			4	5	2			43.23	122.8	83.98	.684	139.7	92.16	.660
G. L. and M. W.....	5	17	6.3	10.8	67.9	19	3	2				9		5		36.39	119.0	63.77	.536	140.9	73.36	.521
Total.....	11	35	6.3	10.5	65.5	39	6	7			4	15	2	5		39.90	121.0	74.14	.613	140.3	83.00	.592
Laborers:																						
Pittsburgh.....	6	80	6.1	11.7	71.8	188			1	52	99	8	28			25.78	56.2	20.16	.359	120.1	46.41	.387
G. L. and M. W.....	5	85	6.0	11.6	69.6	265			44	3	12	207				25.54	43.0	15.76	.367	121.7	48.74	.400
Total.....	11	165	6.1	11.7	70.7	454			44	4	64	306	8	28		25.64	48.5	17.58	.363	121.0	47.79	.395

BESSEMER CONVERTERS.

Table D (2) shows the number of employees and the average and classified earnings per hour for blowers and vessel men in 1922, by districts, and all districts combined.

For blowers the range in earnings for both districts was from 70 cents to \$1.25, with an average of 95 cents for both districts combined. The largest number of employees in any classification, 13, or 39 per cent, were found under the heading "\$1 and under \$1.25," and 10, or 30 per cent, earned between 80 and 90 cents.

The earnings of vessel men ranged from 40 cents to \$1.75 per hour, with an average of 89.4 cents for all districts combined.

TABLE D (2).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, BY DISTRICTS, 1922—*BESSEMER CONVERTERS.*

[For explanation of this table see p. 17.]

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—									
			40 and under 45 cts.	45 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.	70 and under 80 cts.	80 and under 90 cts.	90 cents and under \$1.	\$1 and under \$1.25.	\$1.25 and under \$1.50.	\$1.50 and under \$1.75.
BLOWERS.												
Pittsburgh.....	19	\$0.964					1	6	5	7		
Great Lakes and Middle West..	14	.834					2	4	2	6		
Total.....	33	.950					3	10	7	13		
VESSEL MEN.												
Pittsburgh.....	22	1.064			1	2		3	1	6	5	4
Great Lakes and Middle West..	17	.708	4				3	4	1			
Total.....	39	.894	4		1	2	3	7	2	6	5	4

Customary turns per week, hours per turn, and full-time hours per week of those employees who regularly worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (2) for the Bessemer-converter department. As stated in the general explanation of this table (p. 17), data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (2).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BESSEMER CONVERTERS.

[This table includes only employees who worked but one combination of customary days and hours during pay period. For explanation of table see p. 17.]

DAY TURNS.

Customary turns and hours worked.										Number of employees who worked each specified combination of customary turns and hours, by districts.		
Day turns.					Night turns.							
Turns per week.	Hours.				Turns per week.	Hours.						Pitts-burgh.	Great Lakes and Middle West.
	Mon-day to Friday.	Satur-day.	Sun-day.	Per week.		Mon-day to Friday.	Satur-day.	Sun-day.	Per week.			
7	12	12	12	84						8		8
7	12	12	10	82						1		1
7	11½	11½	11½	80½						1		1
7	10½	10½	10½	73½						4		4
7	10	10	10	70						12		12
6	12	12	12	72						2	9	11
6	12	12		72						6	74	80

NIGHT TURNS.

					7	12	12	12	84	2		2
					6	12	12	12	72	8	5	13
					6	12	12		72		1	1
					6	12		12	72	6	5	11

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

7	12	12	12	84	7	12	12	12	84	74		74
7	12	12	12	84	6	12		12	72	13		13
7	11	11	11	77	7	13	13	13	91	6	11	17
7	11	11	5½	71½	6	13		13	78	25		25
7	10½	10½	10½	73½	7	13½	13½	13½	94½	57		57
7	10	10	11	71	6	14		14	84	2		2
7	10	10	10	70	7	14	14	14	98	19	2	21
7	10	10	10	70	6	14		18	88	7		7
7	10	10	10	70	6	14		14	84	9		9
7	8	8	12	60	7	8		8	60		2	2
					6	8	5		45			
7	8	8	10	58	7	8	8	10	58		4	4
					6	8	5		45			
7	8	8	8	56	7	8	8	8	56	5		5
					6	8	8	8	48			
7	8	8	8	56	7	8	8	8	56		20	20
					6	8	8	8	48			
7	8	8	8	56	6	8	8		48		26	26
					6	8	8		48			
6	12	12	12	72	6	12	12	12	72	1	53	54
6	12	12	12	72	6	12		12	72	38	7	45
6	12	12		72	6	12	12	12	72	1	231	232
6	12	12		72	6	12		16	76	2		2
6	12	12		72	6	12		15	75	1		1
6	12	12		72	6	12		14	74	2		2
6	12	12		72	6	12	12		72		50	50
6	12	12		72	6	12		12	72	254	99	353
5	12			60	6	12	12	12	72			2
6	12	11		71	6	12		14	74	3		3
6	12	10		70	7	12	9	17	86	2		2
6	12	10		70	6	12		14	74	16		16
6	12	8		68	6	12		14	74	92		92
6	12	5		65	5	12			60	4		4
6	11	11	11	66	7	13	13	13	91	6		6
6	11	11	11	66	6	13	13	13	78	28	1	29
6	11	11		66	6	13	13	18	83	2		2
6	11	11		66	6	13		18	83	10		10
6	11	11		66	6	13		16	81	2		2
6	11	11		66	6	13	13	13	78		10	10

TABLE E (2).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BESSEMER CONVERTERS—Concluded.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY—Concluded.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.				
Day turns.				Night turns.				Pitts- burgh.				Great Lakes and Middle West.	Total.
Turns per week.	Hours.			Turns per week.	Hours.								
	Mon- day to Friday.	Satur- day.	Sun- day.		Per week.	Mon- day to Friday.	Satur- day.	Sun- day.	Per week.				
6	11	11	.....	66	6	13	.....	13	78	34	.....	34
6	11	11	.....	66	6	12	.....	13	73	9	.....	9
6	11	11	.....	66	6	11	.....	13	68	2	.....	2
6	10½	10½	.....	63	6	13½	.....	14½	82	8	.....	8
6	10½	10½	.....	63	6	13½	.....	13½	81	.....	2	2
6	10	10	.....	60	7	14	.....	14	102	7	.....	7
6	10	10	.....	60	7	14	.....	14	98	2	.....	2
6	10	10	.....	60	6	14	.....	15	85	2	.....	2
6	10	10	.....	60	6	14	.....	14	84	.....	1	1
6	10	10	.....	60	6	14	.....	14	84	61	.....	61
6	8	8	.....	48	7	8	.....	9	11	.....	7	7
6	8	8	.....	48	6	8	.....	8	8	7	.....	7
6	8	8	.....	48	7	8	.....	8	12	.....	3	3
6	8	8	.....	48	6	8	.....	5	45	.....	45	45
6	8	8	.....	48	7	8	.....	6	8	.....	54	54
6	8	8	.....	48	6	8	.....	8	48	10	.....	10
5	12	.....	.....	60	5	12	.....	.....	60	8	.....	8

SUMMARY.

Item.	Pittsburgh district.	Great Lakes and Middle West district.	Total.	Per cent of employees who worked but one combina- tion of days and hours.
Total Bessemer converter employees.....	1,309	985	2,294	.....
Employees who worked—				
One combination of days and hours only.....	1,089	765	1,854	100
7-day week or straight or average day of 12 or more hours all or part of the time.....	883	616	1,499	81
7-day week all of the time.....	184	13	197	11
7-day week part of the time.....	95	55	150	8
Straight or average day of 12 or more hours all of the time.....	700	561	1,261	68
Straight or average day of 12 or more hours part of the time.....	144	5	149	8
7-day week and straight or average day of 12 or more hours all of the time.....	166	13	179	10

Of the total number of Bessemer-converter employees reported, 1,854 worked but one combination of customary days and hours. Of these 1,854 employees, 1,499, or 81 per cent, regularly worked a 7-day week or a straight or average day of 12 or more hours all or part of the time, 117 working days only, 27 working nights only, and 1,355 alternating between day and night work. Sixty-eight per cent (1,261) had a straight or average day of 12 or more hours all of the time, and 10 per cent (179) regularly worked a 7-day week and a straight or average day of 12 or more hours all of the time.

OPEN-HEARTH FURNACES.

The basic open-hearth process alone is treated in this report and only furnaces of the fixed or stationary type have been included. While tilting or rolling furnaces are used to some extent by a few companies in different localities, this type of furnace is chiefly of local significance and is not general to the industry. Consequently the material used has been limited to stationary furnaces in which the basic process is employed and all figures presented are strictly comparable.

The 1922 survey includes 22 representative open-hearth furnace plants which employed 7,954 employees in all occupations. Of the total number of employees reported 4,515 are included in the principal productive occupations for which separate figures are given. Data were first obtained for this department in 1910 and comparative figures are presented for the years 1910 to 1922.¹

Considering the principal productive occupations as a whole, in 1922 earnings in this department were at a higher level, as shown by the index numbers for departments, than any other department for which data are presented. However, owing to economic conditions, average earnings per hour had decreased 28 per cent since 1920 and were 15 per cent less than in 1919, but the 1922 figure was still 102 per cent greater than that of 1913 and 1914. Full-time hours per week decreased 7 per cent in 1922 as compared with 1913, although a slight increase of 4 per cent since 1920 is noted. Full-time weekly earnings followed very closely the course of hourly earnings, as the changes in full-time hours were very slight as compared with those in hourly earnings. When all occupations are considered, earnings decreased from 67.1 cents per hour in 1920 to 48 cents in 1922.

The most significant facts concerning average earnings and average hours in each of the 15 principal productive occupations are summarized in Table A (3). When 1922 is compared with 1920, average full-time hours per week increased in 13 of the occupations and decreased in 2. Increases ranged from 1.8 hours per week for locomotive engineers to 5.5 hours for stock cranemen, and the decreases were 4.5 hours for mold cappers and 0.6 hour for laborers. The 1922 averages, while greater than those for 1920 in most cases, are lower than those for any other year in each occupation except ingot strippers. The working time of ingot strippers increased 3.5 hours per week from 1920 to 1922, marking the highest point in full-time hours since 1915.

Earnings have decreased considerably since 1920 in each occupation and are lower than the earnings for 1919, but as compared with any other year for which data are presented the 1922 averages show an increase in each instance. Some idea of the changes in earnings in this department which have taken place from year to year may be gained from a study of the occupation of charging-machine

¹ No data were collected for 1916, 1918, and 1921.

operators. Employees in that occupation in 1910 earned an average of 29.4 cents per hour, with possible full-time earnings of \$22.52 per week. During the next few years earnings varied but slightly and it was not until 1917 that any considerable change was noticed. In that year earnings had advanced to 46.7 cents per hour and \$35.91 per week. Wages increased rapidly during the next three years, reaching the high average of 89.5 cents per hour and \$59.83 per week in 1920. The increase in earnings during the war period was followed by a decline of 27 cents per hour and \$14.74 per week, in 1922 as compared with 1920, the averages for 1922 being 62.5 cents and \$45.09, respectively.

The increase in customary working time of the different selected occupations is best illustrated by reference to the classification of employees according to their full-time hours per week. The percentage of employees in 1922 who customarily worked 84 hours per week has increased over that in 1920 in each occupation except mold cappers and ingot strippers. There were no 84-hour workers in the occupation of mold cappers in either year and ingot strippers decreased from 21 per cent in 1920 to 20 per cent in 1922. The greatest increase, from 1 per cent in 1920 to 21 per cent in 1922, occurred in the occupation of melters' third helpers. In a few of the occupations a small percentage of employees are found for the first time in the group "48 and under."

Index numbers for full-time hours per week, earnings per hour, and full-time weekly earnings are also contained in Table A (3). These are simply percentages computed from the averages in the table, using the average for 1913 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 4.

TABLE A (3).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—OPEN-HEARTH FURNACES.¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84		
Stockers:															
1910.....	17	448	76.8	\$0.177	\$13.69	99	90	89			13	24	34	28	
1911.....	17	419	77.4	.172	12.73	96	87	88		3	26	24	28	19	
1912.....	17	413	77.0	.176	13.51	99	89	88			7	25	40	23	
1913.....	17	417	77.8	.197	15.30	100	100	100			8	22	40	31	
1914.....	22	409	77.0	.204	15.66	99	104	102		(*)	8	21	48	*23	
1915.....	22	366	77.3	.199	15.41	99	101	101		2	8	21	38	30	
1917.....	13	243	77.4	.296	22.92	99	150	150				38	33	29	
1919.....	17	476	75.7	.506	38.30	97	257	250		10		22	50	18	
1920.....	19	573	70.9	.573	40.18	91	291	263		26		9	17	39	10
1922.....	22	647	73.9	.379	28.07	95	192	183	3	4	29	19	27	18	

¹ This table was published in the Monthly Labor Review for June, 1923.

* Less than 1 per cent.

* Including less than 1 per cent whose full-time hours per week were 80.

TABLE A (3).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—OPEN-HEARTH FURNACES—Continued.

Occupation and year.	Number of plants.	Number of employ-ees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84		
Stock crane-men:															
1910.....	13	75	78.8	\$0.223	\$17.60	100	94	93	.....	1	3	16	40	40
1911.....	13	70	75.6	.207	15.61	96	87	83	.....	1	23	10	43	23
1912.....	14	72	78.9	.228	18.02	100	96	96	.....	.....	.....	11	47	42
1913.....	15	84	79.1	.238	18.85	100	100	100	.....	.....	5	10	45	40
1914.....	20	98	78.4	.237	18.58	99	100	99	.....	.....	4	12	49	35
1915.....	20	94	77.4	.253	19.77	98	106	105	.....	.....	4	23	47	26
1917.....	11	64	77.4	.338	26.11	98	142	139	.....	.....	.....	38	34	23
1919.....	15	115	75.2	.556	41.81	95	234	222	.....	.....	.....	22	55	13
1920.....	17	150	67.8	.686	47.02	86	283	249	10	12	11	35	7
1922.....	20	178	73.3	.460	33.85	93	193	180	13	10	25	38	14
Charging-machine opera-tors:															
1910.....	17	73	76.8	.294	22.52	98	88	86	.....	.....	8	34	27	30
1911.....	17	72	74.7	.287	21.37	96	86	82	.....	.....	25	25	33	17
1912.....	17	72	75.8	.312	23.67	97	93	91	.....	.....	14	36	25	25
1913.....	17	76	78.0	.335	26.12	100	100	100	.....	.....	13	16	32	39
1914.....	22	86	77.4	.307	23.66	99	92	91	.....	.....	5	30	33	30
1915.....	22	86	77.7	.330	25.55	100	99	98	.....	.....	5	33	33	33
1917.....	13	64	77.1	.467	35.91	99	139	137	.....	.....	.....	44	28	28
1919.....	17	98	75.3	.753	56.70	97	225	217	.....	10	.....	24	48	17
1920.....	19	137	67.2	.895	59.83	86	267	229	38	4	14	42	2
1922.....	22	137	72.2	.625	45.09	93	187	173	16	12	31	23	19
Door operators:															
1910.....	15	165	75.9	.101	7.72	99	90	89	.....	.....	12	33	22	28
1911.....	15	160	75.5	.100	7.53	98	89	87	.....	.....	21	24	31	24
1912.....	15	157	76.0	.102	7.72	99	91	89	.....	.....	20	28	21	31
1913.....	15	160	76.9	.112	8.68	100	100	100	.....	.....	20	19	28	34
1914.....	19	170	77.0	.109	8.35	100	97	96	.....	.....	14	24	32	31
1915.....	19	176	76.5	.111	8.43	99	99	97	.....	.....	14	25	38	24
1919.....	15	165	73.8	.321	23.69	96	287	273	.....	14	.....	41	24	22
1920.....	15	264	66.1	.402	26.27	86	359	303	45	10	13	28	4
1922.....	16	288	70.1	.279	19.76	91	249	228	14	20	33	8	16
Melters' help-ers, first:															
1910.....	17	341	77.7	.416	32.27	101	95	95	.....	.....	7	22	40	31
1911.....	17	338	75.3	.400	30.12	98	91	89	.....	.....	17	21	49	13
1912.....	17	347	76.5	.417	31.89	99	95	94	.....	.....	2	24	55	19
1913.....	17	364	77.1	.440	33.89	100	100	100	.....	.....	3	16	55	26
1914.....	22	404	75.6	.420	31.60	98	95	93	.....	.....	9	14	62	15
1915.....	22	422	75.5	.437	32.80	98	99	97	.....	.....	10	13	63	14
1917.....	13	272	76.3	.586	44.36	99	133	131	.....	.....	.....	54	13	33
1919.....	17	402	74.9	.966	72.35	97	220	213	.....	11	.....	34	33	22
1920.....	19	620	69.4	1.059	75.09	90	248	222	.....	33	.....	6	60	2
1922.....	22	622	71.4	.775	53.34	93	176	163	15	1	46	32	5
Melters' help-ers, second:															
1910.....	17	339	76.6	.272	20.87	100	93	93	.....	.....	8	38	22	31
1911.....	17	335	74.5	.263	19.62	97	90	88	.....	.....	35	21	21	23
1912.....	17	347	75.8	.274	20.77	99	94	93	.....	.....	20	37	14	29
1913.....	17	360	76.7	.292	22.36	100	100	100	.....	.....	19	29	14	37
1914.....	22	402	74.7	.278	20.70	97	95	93	.....	.....	15	25	29	22
1915.....	22	420	74.5	.291	21.57	97	100	97	.....	.....	9	14	24	31
1917.....	13	272	75.9	.397	29.93	99	136	134	.....	.....	.....	54	20	26
1919.....	17	410	74.4	.693	51.56	97	237	231	.....	12	.....	33	39	17
1920.....	19	721	69.1	.781	53.80	90	267	241	.....	34	.....	3	55	1
1922.....	22	704	71.2	.557	39.50	93	191	177	16	12	47	21	5
Melters' help-ers, third:															
1910.....	17	393	76.5	.196	14.97	98	92	89	.....	.....	8	36	30	27
1911.....	17	394	73.9	.185	13.67	95	86	82	.....	.....	20	37	36	8
1912.....	17	414	75.4	.199	15.01	97	93	90	.....	.....	7	30	46	16
1913.....	16	453	77.9	.214	16.64	100	100	100	.....	.....	1	25	38	36
1914.....	21	442	77.4	.207	15.98	99	97	96	.....	.....	.....	39	30	31
1915.....	21	454	77.7	.212	16.44	100	99	99	.....	.....	.....	38	29	33
1917.....	11	268	77.5	.328	25.26	99	153	152	.....	.....	.....	44	20	36
1919.....	17	602	76.6	.532	40.75	98	249	245	.....	6	.....	30	36	28
1920.....	19	970	67.8	.645	43.64	87	301	262	.....	38	.....	2	12	46
1922.....	22	980	72.9	.432	31.44	94	202	189	10	2	13	35	19	21

56 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE A (3).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—OPEN-HEARTH FURNACES—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Stopper setters:														
1910.....	10	30	76.2	\$0.313	\$23.63	99	96	94				37	57	7
1911.....	10	29	73.5	.313	23.11	95	96	92			28	21	52	
1912.....	10	29	75.8	.329	24.92	98	101	99				21	72	7
1913.....	9	30	77.3	.325	25.10	100	100	100				13	80	7
1914.....	10	32	75.0	.287	21.46	97	88	86				63	25	13
1915.....	10	32	74.6	.296	21.96	97	91	88			25	33	25	13
1917.....	8	36	75.3	.414	30.90	97	127	123				67	11	22
1919.....	10	45	73.8	.634	50.48	95	210	201		16		36	27	22
1920.....	12	71	68.4	.778	53.17	88	239	212		34		13	34	11
1922.....	17	83	70.9	.561	39.73	92	173	158	7	13		12	33	18
Steel pourers:														
1910.....	14	47	75.3	.308	23.05	98	83	81			11	49	17	23
1911.....	14	44	73.7	.304	22.32	96	82	78				23	27	41
1912.....	15	50	76.5	.321	24.57	99	87	86			20	24	28	28
1913.....	16	56	77.0	.370	28.46	100	100	100				4	25	46
1914.....	21	70	76.4	.339	25.94	99	92	91			11	37	29	23
1915.....	21	70	75.7	.356	26.99	98	96	95			11	43	29	17
1917.....	12	48	76.0	.466	35.60	99	126	125				54	25	21
1919.....	17	69	73.2	.796	58.27	95	215	205		16		32	42	10
1920.....	18	112	68.0	.929	62.31	88	251	219		36		13	50	2
1922.....	21	101	70.4	.645	45.48	91	174	160	4	18		9	28	26
Mold cappers:														
1910.....	8	40	76.5	.217	16.40	97	85	82				55	15	30
1911.....	8	38	74.0	.215	15.78	94	84	79			21	26	42	11
1912.....	9	52	79.3	.228	18.00	101	89	90			15	8	27	59
1913.....	12	68	78.6	.255	20.04	100	100	100			6	12	41	41
1914.....	13	70	77.7	.232	17.96	99	91	90				11	26	31
1915.....	13	72	76.1	.254	19.24	97	100	96				11	42	28
1917.....	6	38	76.7	.364	28.16	98	143	141				58	5	37
1919.....	11	97	74.3	.588	43.69	95	231	218				25	60	4
1920.....	7	73	70.0	.635	44.65	89	249	223		23		4	73	
1922.....	8	92	65.5	.460	31.33	83	180	156	14	16		12	15	42
Ladle crane-men:														
1910.....	16	90	77.2	.294	22.76	100	86	86			9	23	31	32
1911.....	16	86	74.6	.287	21.32	97	84	81			24	34	23	19
1912.....	16	90	76.2	.317	24.22	99	93	92			70	32	31	27
1913.....	17	90	77.2	.341	26.34	100	100	100			9	18	44	27
1914.....	22	104	76.5	.305	23.34	99	89	89			6	24	47	23
1915.....	22	107	76.0	.327	24.92	98	96	95				6	29	47
1917.....	13	82	76.4	.466	35.64	99	137	135				51	24	24
1919.....	17	119	75.6	.733	55.41	98	215	210		6		30	51	13
1920.....	19	146	68.3	.887	56.63	88	245	215		36		3	17	42
1922.....	21	153	72.9	.588	42.83	94	172	163		12		13	33	24
Ingot strippers:														
1910.....	15	46	73.7	.275	19.88	99	93	91	7		22	30	17	24
1911.....	15	51	71.9	.256	18.06	97	86	83		6		8	63	20
1912.....	15	55	72.9	.278	19.99	98	94	92		5		69	18	7
1913.....	15	61	74.5	.296	21.85	100	100	100		5		46	30	20
1914.....	18	47	75.8	.292	21.72	102	99	99		6		30	47	17
1915.....	18	48	76.3	.303	22.76	102	102	104		6		29	42	23
1917.....	13	39	70.9	.449	30.85	95	152	141		23		35	16	23
1919.....	15	48	69.9	.749	52.36	94	253	240		33		17	46	4
1920.....	16	71	69.3	.790	54.21	93	267	248		34		11	32	21
1922.....	18	65	72.8	.559	40.61	98	189	186		15		6	26	20
Engineers, loco-motive:														
1910.....	14	107	77.3	.244	18.92	101	83	84			6	23	45	26
1911.....	15	114	74.3	.247	18.32	97	84	81			38	19	35	8
1912.....	15	117	75.8	.262	19.86	99	89	88			14	10	67	9
1913.....	16	119	76.6	.295	22.55	100	100	100				12	19	52
1914.....	21	137	76.5	.281	21.51	100	95	95				10	20	48
1915.....	21	138	77.1	.279	21.57	101	95	96			6	21	49	24
1919.....	17	166	75.6	.666	50.35	99	226	223		4		40	40	16
1920.....	18	214	69.6	.732	50.83	91	248	225		27		22	11	37
1922.....	20	219	71.4	.527	37.62	93	179	167		19		7	42	16

TABLE A (3).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—OPEN-HEARTH FURNACES—Concluded.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84		
Switchmen:															
1910.....	14	109	77.3	\$0.185	\$14.29	101	80	81	.....	.....	6	22	44	28	
1911.....	15	117	74.4	.186	13.85	98	81	79	.....	.....	38	19	34	9	
1912.....	15	118	75.2	.199	14.92	99	87	85	.....	.....	15	19	56	10	
1913.....	16	127	76.3	.230	17.55	100	100	100	.....	.....	13	23	49	16	
1914.....	21	149	76.5	.226	17.29	100	98	99	.....	.....	11	23	44	22	
1915.....	21	150	77.0	.225	17.33	101	98	99	.....	.....	5	25	45	25	
1919.....	17	194	76.2	.555	42.29	100	241	241	.....	2	.....	40	39	19	
1920.....	18	297	69.3	.617	42.84	91	268	244	.....	27	.....	19	11	41	2
1922.....	20	275	72.0	.439	31.61	94	191	180	.....	13	.....	11	39	19	18
Laborers:															
1910.....	17	1,038	74.5	.157	11.69	98	84	82	.....	4	6	20	13	35	22
1911.....	17	806	73.2	.161	11.78	96	86	83	.....	4	7	24	15	37	14
1912.....	17	948	74.7	.164	12.21	98	88	86	.....	6	5	13	17	39	20
1913.....	17	1,109	76.2	.187	14.24	100	100	100	.....	4	4	6	25	31	30
1914.....	22	805	69.5	.185	12.84	91	99	90	.....	11	27	14	4	34	9
1915.....	22	723	70.8	.186	13.19	93	99	93	.....	8	21	22	6	30	13
1917.....	13	653	74.4	.202	21.73	98	156	153	.....	.....	.....	22	20	38	20
1919.....	17	1,266	76.2	.468	35.66	100	250	250	.....	3	6	7	7	56	20
1920.....	18	1,393	68.5	.525	36.21	90	281	254	.....	27	2	22	3	43	2
1922.....	21	992	67.9	.354	24.22	89	189	170	.....	1	17	15	24	18	17

* Less than 1 per cent.

The number of employees reported in 1922 includes some duplications, or repeated employees, as stated in the general explanation of Table B (p. 15). Of the 4,778 employees reported in selected occupations for all districts combined in 1922, there were 263 duplications, leaving 4,515 actually engaged, and the total of 8,298 employees shown for all occupations represents 7,954 individuals.

The gross number of employees reported, together with the net number of actual employees for selected occupations and all occupations in each district and all districts combined, are shown in Table 10.

TABLE 10.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND ALL OCCUPATIONS, 1922, BY DISTRICTS—OPEN-HEARTH FURNACES.

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number.
Eastern.....	692	65	624	1,241	87	1,154
Pittsburgh.....	1,580	94	1,486	2,554	114	2,440
Great Lakes and Middle West.....	2,046	85	1,961	3,678	124	3,554
Southern.....	460	16	444	825	19	806
Total.....	4,778	263	4,515	8,298	344	7,954

The customary working time per week of employees in the open-hearth-furnace department for the years 1910 to 1922 has been classified, and the number and per cent of employees coming under each classification are shown in Table B (3).

The working time of employees in the open-hearth furnace department shows a wide variation of days or turns per week—5 days, 6 days, and 7 days, with the many combinations thereof. However, nearly all of the employees were found working 6 days, 7 days, or 6 and 7 days alternately, with only a few employees found in the other classifications. The heading "6 days and 7 days alternately" indicates that the plants were running 7 days and 6 nights or 6 days and 7 nights each week, being shut down for one day or one night each week, or that the employees were relieved one turn every two weeks while the plant itself was in continuous operation and that the employees reported under this heading worked 7 turns one week and 6 turns the next.

A study of Table B (3) will show some material changes between 1920 and 1922. In 1920 in selected occupations, all districts combined, 25 per cent worked 6 days per week, while in 1922 the per cent of employees working 6 days had increased to 53. In 1920, 42 per cent worked 6 days and 7 days alternately, while in 1922 only 17 per cent worked these turns. The per cent of employees who worked 7 days per week had decreased from 30 in 1920 to 23 in 1922. When the total employees for all occupations combined are considered, the percentages under each heading are practically the same as they were for selected occupations alone. When each district is studied separately some marked changes appear in the 7-day workers between the years 1920 and 1922, but when taken as a whole the changes are not so great.

TABLE B (3).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1910 TO 1922, BY YEARS—
OPEN-HEARTH FURNACES.

[For explanation of this table, see p. 15.]

District.	Year.	Number of plants.	Number of employ-ees. ¹	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—									
				5 days.	5 days and 6 days alternately.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	5 days.	5 days and 6 days alternately.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	
EASTERN.																				
Selected occupations.....	1910	4	583	.....	207	252	16	24	.....	.....	.....	84	.....	36	43	3	4	.....	14
	1911	4	477	.....	83	282	.....	26	.....	.....	.....	86	.....	17	59	.....	6	.....	18
	1912	4	471	.....	55	286	.....	26	.....	.....	.....	94	.....	12	63	.....	6	.....	20
	1913	4	490	.....	62	301	.....	28	.....	.....	.....	99	.....	13	61	.....	6	.....	20
	1914	6	491	.....	.....	248	.....	154	.....	.....	.....	89	.....	.....	51	.....	31	.....	18
	1915	6	516	.....	.....	263	.....	149	.....	.....	.....	104	.....	.....	51	.....	29	.....	20
	1917	2	299	.....	100	.....	.....	88	.....	.....	.....	111	.....	33	.....	.....	29	.....	37
	1919	3	326	.....	.....	213	.....	99	.....	.....	.....	14	.....	.....	65	.....	30	.....	4
	1920	4	451	.....	1	288	.....	127	.....	18	.....	17	.....	(²)	64	.....	28	.....	4
	1922	5	692	.....	.....	416	.....	228	.....	33	.....	15	.....	.....	60	.....	33	.....	2
All occupations.....	1914	6	1,064	.....	.....	635	.....	215	.....	.....	.....	214	.....	.....	60	.....	20	.....	20
	1915	6	1,116	2	655	225	3	229	(²)	(²)	59	20	(²)	21
	1920	4	955	12	630	202	18	80	1	66	21	8
	1922	5	1,241	1	699	412	33	96	(²)	56	33	8
PITTSBURGH.																				
Selected occupations.....	1910	5	1,491	.....	.....	343	.....	837	.....	.....	.....	311	.....	.....	23	.....	56	.....	21
	1911	5	1,432	.....	32	558	.....	636	.....	3	.....	171	.....	.....	2	.....	44	.....	12
	1912	5	1,452	.....	.....	225	.....	873	.....	20	.....	331	.....	.....	16	.....	60	.....	23
	1913	5	1,571	.....	.....	121	.....	879	.....	60	50	461	.....	.....	8	.....	56	.....	29
	1914	6	1,532	.....	.....	375	.....	697	.....	10	.....	450	.....	.....	24	.....	45	.....	29
	1915	6	1,409	.....	.....	316	.....	668	.....	.....	.....	425	.....	.....	22	.....	47	.....	30
	1917	3	588	.....	.....	259	.....	192	.....	9	.....	128	.....	.....	44	.....	33	.....	22
	1919	5	1,796	.....	.....	389	.....	1,360	.....	.....	.....	47	.....	.....	23	.....	76	.....	3
	1920	6	1,994	.....	.....	394	.....	1,409	.....	.....	127	64	.....	.....	20	.....	71	.....	3
	1922	5	1,580	.....	.....	753	.....	567	.....	136	12	112	.....	.....	48	.....	36	.....	7

¹ The figures in this column for the years 1910 to 1917 represent the number of jobs and for the years 1919, 1920, and 1922 the actual number of men employed.

² Less than 1 per cent

OPEN-HEARTH FURNACES.

TABLE B (3).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED 1910 TO 1922, BY YEARS—*OPEN-HEARTH FURNACES*—Concluded.

District.	Year.	Number of plants.	Number of employees.	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—								
				5 days.	5 days and 6 days alternately.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	5 days.	5 days and 6 days alternately.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.
PITTSBURGH—concluded.																			
All occupations.....	1914	6	2,149			468		852	10		819			22		40	(*)		38
	1915	6	2,013			404		814			795			20		40			39
	1920	6	3,190			670		2,049		227	244			21		64		7	8
	1922	5	2,554			1,104		944	226	16	264			43		37	9	1	10
GREAT LAKES AND MIDDLE WEST.																			
Selected occupations.....	1910	6	975			340		63			372			35		7			59
	1911	6	941			461		263			217			49		28			23
	1912	6	1,073			477		182			414			45		17			39
	1913	6	1,171			422		168	15		566			36		14	1		48
	1914	7	1,069			394		274			401			37		26			38
	1915	7	1,122			405		304			413			36		27			37
	1917	5	953			695					258			73					27
	1919	7	1,796			526		322			948			29		18			53
	1920	6	1,328			50		573		1,205				3		31			66
	1922	9	2,046			1,086			108	46	806			53		31	5	2	39
All occupations.....	1914	7	1,632			751		311			570			46		19			35
	1915	7	1,755			846		356			553			48		20			32
	1920	6	3,067			214		793			2,060			7		26			67
	1922	9	3,678			1,848			112	153	1,565			50			3	4	43
SOUTHERN.																			
Selected occupations.....	1910	2	292			188					104			64					36
	1911	2	223			100		58			65			45		26			29
	1912	2	250			86		70			88			34		28			35
	1913	2	266			126		62		6	72			47		23		2	27
	1914	3	333			163		34		6	130			49		10		2	39
	1915	3	311			126		50			135			41		16			43
	1917	3	239					171			68					72			28

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	1919	2	354				166				188				47			53
	1920	3	685				1				208			70	(*)			30
	1922	3	460				2				179			61	(*)			39
All occupations.....	1914	3	570				38		9		254			47	7			45
	1915	3	539				58		3		252			42	11			47
	1920	3	958				1				302			68	(*)			32
	1922	3	825				4				337			59	(*)			41
TOTAL.																		
Selected occupations.....	1910	17	3,341		207	1,123	16	924			1,071		6	34	1	28		32
	1911	17	3,073		115	1,401	32	983	3		539		4	46	1	32	(*)	15
	1912	17	3,246		55	1,084		1,151	20	9	927		2	33		36	(*)	29
	1913	17	3,498		62	1,970		1,137	75	56	1,198		2	28		33	1	34
	1914	22	3,425			1,180		1,159	10	6	1,070			34		34	(*)	31
	1915	22	3,358			1,110		1,171			1,077			33		35	(*)	32
	1917	13	2,079		100	954		451	9		665		5	46		22	(*)	27
	1919	17	4,272			1,128		1,947			1,197			26		42		28
	1920	19	4,968		1	1,218		2,110		145	1,494		(*)	25		42		30
	1922	22	4,778			2,534		797	244	91	1,112			53		17	5	23
All occupations.....	1914	22	5,415			2,123		1,416	10	9	1,857			39		26	(*)	34
	1915	22	5,423	2	2	2,131		1,453	3	3	1,829	(*)	(*)	39		27	(*)	34
	1920	19	8,170		12	2,169	13	3,045		245	2,686	(*)	(*)	27	(*)	37		33
	1922	22	8,298	1		4,135		1,360	338	202	2,262	(*)		50		16	4	27

* Less than 1 per cent.

OPEN-HEARTH FURNACES.

Table C (3) presents the most significant facts relative to customary and actual working time, actual earnings per pay period, and earnings per hour of employees in 22 open-hearth furnace plants in 1922, by occupations and districts. In addition, for each occupation are shown the number of positions and the number of employees actually working during the pay period and also the time and earnings of the same employees during the same period at occupations other than the occupation specified.

Referring to the occupation of melters' first helpers by way of illustration: In 22 plants the 454 positions were filled by 622 men during the pay period scheduled. The average customary full time of the men working in the positions was 6.3 turns per week, 11.4 hours per turn, and 71.4 hours per week. In the distribution of the customary working time of the 622 actual employees, 289, the largest number in any one group, were found under the heading "72 hours." The next highest number, 198, came under the classification "Over 72 and under 84." The average hourly earnings of melters' first helpers ranged from 63.4 cents in the eastern district to 83.9 cents in the Pittsburgh district, with an average of 77.5 cents for all districts combined. The range of average full-time weekly earnings was from \$48.31 in the eastern district to \$60.58 in the Pittsburgh district, with an average for all districts of \$55.34.

Owing to the fact that a large number of the employees worked in more than one occupation during the pay period and in order to give the complete hours and earnings for such employees, separate figures are shown which cover all occupations at which they worked. While 622 men working as melters' first helpers averaged 108.9 hours per pay period, they also averaged 28.3 hours at other work, making a total of 137.2 average hours per pay period in specified (melters' first helpers) and other occupations. During the 108.9 hours they worked as melters' first helpers they earned an average of \$84.32, or 77.5 cents per hour. When the work of these men in all occupations is considered they earned \$100.10—that is, \$15.78 was earned in some occupation or occupations other than melters' first helpers.

The average earnings per hour in the principal productive occupations in this department ranged from 27.9 cents for door operators to 77.5 cents for melters' first helpers, and the average actual hours worked per pay period ranged from 66.7 for laborers to 124.4 for charging-machine operators. Employees who worked as laborers averaged the highest number of hours at other occupations (47.4), while melters' second helpers received the largest earnings for work in addition to their regular occupation (\$20.07). Locomotive engineers worked the smallest number of hours outside their regular occupation (9.2) and likewise received the smallest earnings (\$4) for work in addition to their regular occupation.

TABLE C (3).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—OPEN-HEARTH FURNACES.

[For explanation of this table see p. 16.]

Occupation and district.	Number of plants.	Positions.				Employees working in scheduled pay period.								Average full-time earnings per week.	Scheduled pay period (15 days).																
		Number.	Average customary full time of employ-ees in the positions.			Number.	Number whose customary full-time hours per week were—								Specified occupation.			Specified and other occupations.													
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84		Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.											
Stockers:																															
Eastern.....	5	81	6.1	12.0	73.7	116				4	77	35		\$26.46	104.6	\$37.56	\$0.359	127.3	\$45.62	\$0.358											
Pittsburgh.....	5	122	6.4	11.9	75.5	192				48	5	139		30.12	100.0	39.89	.399	132.7	52.09	.393											
G. L. and M. W.....	9	183	6.5	11.1	72.0	287	19	26		74	77			28.44	96.2	38.01	.395	132.5	52.01	.392											
Southern.....	3	33	6.6	12.0	79.3	52					27			22.05	111.9	31.05	.278	147.9	42.14	.285											
Total.....	22	419	6.4	11.6	73.9	647	19	26		126	186	174	116	28.07	100.1	37.93	.379	132.9	50.09	.377											
Stock cranimen:																															
Eastern.....	5	23	6.3	11.9	74.5	33					16	17		30.77	107.6	44.49	.413	139.5	59.17	.424											
Pittsburgh.....	5	40	6.4	11.9	75.8	68				17		51		36.08	87.7	41.74	.476	114.5	53.77	.470											
G. L. and M. W.....	8	42	6.5	10.9	70.5	72		21			28		23	33.49	90.2	42.85	.475	131.7	60.95	.463											
Southern.....	2	4	7.0	10.0	70.0	5		3					2	29.19	141.8	59.12	.417	166.1	70.05	.422											
Total.....	20	109	6.4	11.4	73.3	178		24		17	44	68	25	32.85	93.9	43.18	.460	127.5	58.13	.456											
Charging-machine operators:																															
Eastern.....	5	20	6.2	12.0	74.5	22				6	6	10		42.39	141.3	80.47	.569	152.9	87.56	.573											
Pittsburgh.....	5	30	6.2	11.4	70.9	36		6		10		20		49.42	123.4	85.96	.697	141.0	95.41	.677											
G. L. and M. W.....	9	46	6.5	11.2	72.2	59		12			27		20	45.34	121.9	76.58	.628	147.5	90.77	.616											
Southern.....	3	11	6.6	10.9	72.0	16		3			8		5	38.16	112.5	59.68	.530	143.9	76.11	.529											
Total.....	22	107	6.4	11.4	72.2	133		21		16	41	30	25	45.09	124.4	77.73	.625	146.2	89.73	.614											
Door operators:																															
Pittsburgh.....	4	62	6.1	11.3	69.0	88		9		57		22		16.77	100.7	24.48	.243	128.4	39.72	.300											
G. L. and M. W.....	9	97	6.5	11.0	71.3	158	15	17			85		41	21.60	84.3	25.57	.303	129.5	45.34	.350											
Southern.....	3	20	6.6	10.4	68.0	42		15			23		4	19.11	68.7	19.28	.281	104.4	33.56	.320											
Total.....	16	179	6.4	11.0	70.1	288	15	41		57	108	22	45	19.76	87.1	24.32	.279	125.5	41.90	.334											

TABLE C (3).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—OPEN-HEARTH FURNACES—Concluded.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.									Average full-time earnings per week.	Scheduled pay period (15 days).					
		Number.	Average customary full-time of employees in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupation.			Specified and other occupations.				
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84		Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Melters' helpers, first:																				
Eastern.....	5	70	6.4	12.0	76.2	93				9	23	61		\$48.31	118.8	\$75.29	\$0.634	151.8	\$91.42	\$0.602
Pittsburgh.....	5	152	6.2	11.7	72.2	203		20			76	107		60.58	108.3	90.85	.839	137.1	107.31	.783
G. L. and M. W.....	9	192	6.3	11.0	69.7	266		58			156	21	31	54.44	108.2	84.43	.781	132.9	98.64	.742
Southern.....	3	40	6.6	10.6	68.2	60		17			34	9		52.51	98.3	75.71	.770	134.3	95.68	.713
Total.....	22	454	6.3	11.4	71.4	622		95		9	289	198	31	55.34	108.9	84.32	.775	137.2	100.10	.730
Melters' helpers, second:																				
Eastern.....	5	70	6.3	12.0	75.1	99				21	35	43		36.20	106.8	51.42	.482	144.2	68.73	.477
Pittsburgh.....	5	152	6.2	11.6	71.9	216		25		52	71	68		43.64	99.2	60.18	.607	132.8	78.21	.589
G. L. and M. W.....	9	192	6.5	10.8	69.7	313		65			187	24	37	39.03	90.9	50.88	.560	135.3	72.01	.532
Southern.....	3	39	6.5	10.7	68.8	76		29			46	10		33.92	72.3	35.65	.493	130.5	60.75	.466
Total.....	22	453	6.3	11.3	71.2	704		110		73	339	145	37	39.50	93.7	52.16	.557	135.3	72.23	.534
Melters' helpers, third:																				
Eastern.....	5	64	6.2	11.9	73.6	112				20	45	47		29.15	89.1	35.29	.396	132.0	52.43	.397
Pittsburgh.....	5	150	6.2	11.6	71.5	247		27		79		141		36.39	88.1	44.83	.509	124.4	62.35	.501
G. L. and M. W.....	9	280	6.5	11.3	73.2	511		73			256		182	31.04	85.2	36.15	.424	130.6	55.52	.425
Southern.....	3	56	6.4	11.7	74.3	110				7	83			24.52	88.4	29.17	.330	131.6	43.29	.329
Total.....	22	550	6.3	11.5	72.9	980		100		106	384	188	202	31.44	86.7	37.46	.432	129.3	55.52	.429
Stopper setters:																				
Eastern.....	2	4	6.3	11.7	73.3	5					2	3		32.55	121.5	53.99	.444	144.7	61.75	.427
Pittsburgh.....	3	16	6.1	11.9	72.2	22				10		12		42.38	110.1	64.70	.587	147.3	85.98	.584
G. L. and M. W.....	9	31	6.5	10.8	70.5	48	6	8			22		12	39.13	101.7	56.47	.555	144.5	78.21	.541
Southern.....	3	7	6.7	10.3	68.6	8		3			3		2	40.54	130.5	77.18	.591	146.3	87.13	.596
Total.....	17	58	6.4	11.1	70.9	83	6	11		10	27	15	14	39.73	107.9	60.50	.561	145.4	80.14	.551

Steel pourers:																					
Eastern.....	4	11	6.3	11.9	75.5	11					4	7		42.51	157.7	88.81	.563	157.7	88.81	.563	
Pittsburgh.....	5	27	6.2	11.1	68.6	34				6		9		47.54	110.7	76.73	.693	139.0	90.56	.651	
G. L. and M. W.....	9	29	6.6	10.8	70.3	42	4			9		16		44.43	108.8	68.76	.632	144.2	87.06	.604	
Southern.....	3	9	6.6	10.7	69.3	14				3		8		45.95	97.7	64.81	.663	148.7	87.32	.587	
Total.....	21	76	6.4	11.0	70.4	101	4			18		9	28	45.48	113.2	73.08	.645	144.5	88.46	.612	
Mold cappers:																					
Pittsburgh.....	4	25	6.2	11.9	73.8	50					11	9		36.31	72.8	35.87	.492	134.0	60.40	.451	
G. L. and M. W.....	4	31	6.4	9.3	58.8	42	13			15		14		25.40	99.1	42.79	.432	124.5	52.72	.423	
Total.....	8	56	6.3	10.4	65.5	92	13			15		11	14	39	31.33	84.8	39.08	.460	129.7	56.89	.439
Ladle cranimen:																					
Eastern.....	5	24	6.2	11.9	73.4	30					6	14	10	41.10	124.4	69.61	.560	150.4	82.16	.544	
Pittsburgh.....	4	34	6.2	11.8	74.4	41					14		27	43.30	123.2	71.73	.552	148.0	84.09	.566	
G. L. and M. W.....	9	53	6.5	10.9	70.8	66						27	20	42.62	121.1	72.96	.602	143.2	84.79	.598	
Southern.....	3	13	6.4	12.0	76.6	16				19		10		45.73	135.4	80.81	.567	157.1	93.33	.592	
Total.....	21	124	6.4	11.4	72.9	153				19		20	51	42.83	123.8	72.80	.588	147.4	84.98	.577	
Ingot strippers:																					
Eastern.....	2	8	6.4	12.0	76.5	10					2	8		44.98	128.8	75.69	.588	161.8	94.08	.581	
Pittsburgh.....	4	14	6.2	11.9	73.8	17					4	13		41.99	126.1	71.74	.569	138.5	78.97	.570	
G. L. and M. W.....	9	23	6.5	10.6	68.5	30				10		12	8	37.47	116.0	63.40	.547	135.1	74.37	.550	
Southern.....	3	7	6.7	12.0	80.6	8						3		44.01	134.1	73.17	.546	152.1	82.08	.540	
Total.....	18	52	6.4	11.3	72.8	65				10		4	17	21	40.61	122.8	68.67	.559	142.2	79.55	.560
Engineers, locomotive:																					
Eastern.....	4	15	6.1	12.0	73.3	20					4	9	7	37.09	112.1	56.67	.506	129.1	64.44	.499	
Pittsburgh.....	5	69	6.3	11.7	73.5	87				3		52	27	5	38.44	118.9	62.16	.523	127.6	65.84	.516
G. L. and M. W.....	8	62	6.5	10.6	68.9	82				32		26	24	37.07	104.3	56.08	.538	115.7	60.98	.527	
Southern.....	3	27	6.4	11.1	70.7	30				6		18		37.12	135.2	70.97	.525	135.2	70.97	.525	
Total.....	20	173	6.4	11.2	71.4	219				41		4	105	34	37.62	115.1	60.59	.527	124.3	64.59	.520
Switchmen:																					
Eastern.....	4	17	6.1	11.9	73.1	21					6	7	8	31.80	119.8	52.07	.435	124.6	54.30	.436	
Pittsburgh.....	5	73	6.2	11.7	73.1	110				4		23	34	4	30.85	100.8	42.58	.422	114.6	47.83	.417
G. L. and M. W.....	8	74	6.5	10.7	69.3	109				33		44		32	31.95	97.9	45.07	.461	126.7	57.28	.452
Southern.....	3	23	6.4	12.0	76.7	35						22		13	32.83	111.0	47.54	.428	154.0	62.90	.409
Total.....	20	187	6.4	11.4	72.0	275				37		29	107	53	31.61	102.4	44.92	.439	125.1	53.99	.431
Laborers:																					
Eastern.....	4	84	6.0	10.1	59.9	148				89		20	39		19.58	60.6	19.81	.326	108.4	37.35	.345
Pittsburgh.....	5	181	6.4	10.8	69.1	387				25	110	76	35	141	25.22	68.0	24.08	.365	109.4	42.84	.391
G. L. and M. W.....	9	170	6.4	11.3	72.4	367				10	20	148	88	30	26.50	69.0	25.27	.366	123.3	46.97	.381
Southern.....	3	52	6.0	10.3	62.1	90				31	43		16		18.38	70.9	20.96	.296	106.7	32.84	.308
Total.....	21	487	6.3	10.8	67.9	992	10	165	153	244	178	171	171	24.22	66.7	23.60	.354	114.1	42.64	.374	

¹ Including 18 employees who worked 87½ hours.

Table D (3) shows the number of employees and the average and classified earnings per hour for melters' first helpers and ladle cranimen in 1922, by districts, and for all districts combined.

The average earnings per hour of melters' first helpers ranged between 30 cents and \$1.25. Sixty-three per cent, however, of the 622 employees earned 60 and under 90 cents per hour. The largest number in any one group, 137, or 22 per cent of the total, earned from 60 to 70 cents per hour; and 125, or 20 per cent, earned "70 and under 80 cents." The average for all employees was 77.5 cents per hour.

Ladle cranimen in all districts earned an average of 59.1 cents per hour, and the range in classification—from 40 to 90 cents per hour—is not so wide as that for melters' first helpers. The largest number in any one group, 68, or 44 per cent of the total, earned "60 and under 70 cents" per hour.

TABLE D (3).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS—OPEN-HEARTH FURNACES.

[For explanation of this table see p. 17.]

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—									\$1 and under \$1.25.
			30 and under 35 cents.	35 and under 40 cents.	40 and under 45 cents.	45 and under 50 cents.	50 and under 60 cents.	60 and under 70 cents.	70 and under 80 cents.	80 and under 90 cents.	90 cents and under \$1.	
MELTERS' HELPERS, FIRST.												
Eastern.....	93	\$.634				3	28	43	8	5		1
Pittsburgh.....	203	.839			16		3	34	33	49	41	27
Great Lakes and Middle West.....	266	.781	1	1	6	4	22	52	64	61	35	20
Southern.....	60	.770			13	1	2	3	20	14	7	
Total.....	622	.775	1	1	35	8	55	137	125	129	83	48
LADLE CRANEMEN.												
Eastern.....	30	.560			8	5	5	11		1		
Pittsburgh.....	41	.582					28	13				
Great Lakes and Middle West.....	66	.602			6	5	18	30	7			
Southern.....	16	.597				2		14				
Total.....	153	.591			14	12	51	68	7	1		

Customary turns per week, hours per turn, and full-time hours per week of those employees in the open-hearth furnace department who regularly worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (3). As stated in the general explanation of this table (p. 17), data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (3).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—OPEN-HEARTH FURNACES.

[This table includes only employees who worked but one combination of customary days and hours during pay periods. (For explanation see p. 17.)]

DAY TURNS.

Customary turns and hours worked.					Number of employees who worked each specified combination of customary turns and hours, by districts.									
Day turns.					Night turns.				East-ern.	Pitts-burgh.	Great Lakes and Middle West.	South-ern.	Total.	
Turns per week.	Hours.				Turns per week.	Hours.								
	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.		Mon-day to Fri-day.	Sat-ur-day.	Sun-day.						Per week.
7	13½	13½	13½	94½									1	1
7	13	13	13	91									1	1
7	12	12	12	84					6		48	6		60
7	12	12	10	82						3				3
7	11½	11½	11½	80½						3	2			5
7	11	11	11	77					2	7	22	1		32
7	11	11	11	77							1			1
6	11	11	11	66							9	9		18
7	10½	10½	10½	73½					18	99	43	21		181
7	10	10	10	70										
6	10	10	10	60						6				6
7	10	10	10	70										
6	10	10	10	60									6	6
6	10	10	10	60										
7	9½	9½	8	65									11	11
7	9	9	9	63							7			9
7	8½	8½	8½	59½						2				1
7	8	8	8	56							54			58
6	12	12	12	72						2	10	5		17
6	12	12	11	71						2				2
6	12	12		72					24	9	18	12		63
6	12	6		66					1					1

NIGHT TURNS.

					7	13	13	13	91	1	1	1		3
					7	12½	12½	12½	87½			8	1	9
					7	12	12	12	84	4		25		29
					7	11½	11½	11½	80½		2			2
					6	8	8	8	56			2		2
					6	12	12	12	72				1	1
					6	14		14	84	1				1
					6	13½		13½	81	1				1
					6	13		13	78	1	2			3
					6	12		13	73	1				1
					6	12		12	72			2		2

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

7	12	12	12	84	7	12	12	12	84	32	8	344	141	525
7	12	12	12	84	6	12	12	12	84				6	6
7	12	12	12	84	6	12	12	12	72	201			2	203
7	11½	11½	11½	80½	7	11½	11½	11½	80½		2			2
7	11	11	11	77	7	13	13	13	91		60	98	6	164
7	11	11	11	77	7	13	13	13	91					4
7	11	11	11	77	6	13	13	13	78	4				4
7	11	11	11	77	6	13	13	13	78		7			7
7	11	11	11	77	6	13	13	13	78	4	146			150
7	11	11	8½	74½	6	13	13	13	78		1			1
7	11	11	5	71	6	13	13	13	78	14				14
7	11	9	11	75	6	13	13	13	78					1
7	11	8½	11	74½	6	13	13	13	78		6			6
7	11	7½	11	73½	6	13	13	13	78		5			5
7	11	5½	12	72½	6	13	13	13	78		11			11

68 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE E (3).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—OPEN-HEARTH FURNACES—Continued.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY—Continued.

Customary turns and hours worked.										Number of employees who worked each specified combination of customary turns and hours, by districts.				
Turns per week.	Day turns.				Night turns.				East ern.	Pitts- burgh.	Great Lakes and Middle West.	South- ern.	Total.	
	Hours.				Hours.									
	Mon- day to Fri- day.	Sat- ur- day.	Sun- day.	Per week.	Turns per week.	Mon- day to Fri- day.	Sat- ur- day.	Sun- day.						Per week.
7	11	5	12	72	6	13	13	78		18			18	
7	11	5	11	71	6	13	13	78		4			4	
7	10½	10½	10½	73½	7	13½	13½	94½	4		246	5	255	
7	10½	10½	11½	74½	6	13½	13½	81	39				39	
7	10½	10½	6	69	6	13½	13½	81	6				6	
7	10	10	12	72	7	14	12	94	2				2	
7	10	10	10	70	7	14	14	98		13	229	3	245	
7	10	10	10	70	7	14	14	98						
7	10	10	10	70	6	14	14	84	20				20	
7	10	10	10	70	7	10	10	70			4		4	
7	10	10	10	70	6	14	14	84	18				18	
7	10	10	10	70	7	13	18	13	91	2	2		4	
7	10	10	10	70	6	14	14	84						
7	10	10	10	70	7	13	13	13	78					
6	19	10	10	60	7	14	14	14	98		337		337	
6	19	10	10	70	6	13	13	13	78					
6	10	10	10	60	7	13	13	13	91	28			28	
6	10	10	10	70	6	12	12	12	72					
6	10	10	10	60	7	12	12	12	84	6			6	
6	10	10	10	70	7	14	14	14	98					
6	10	10	10	60	6	14	14	84		92			92	
6	10	10	10	70	6	13	13	13	78					
6	10	10	10	60	7	13	13	13	91	2			2	
6	10	10	10	70	6	11	11	66	22				22	
6	10	10	5	65	6	14	14	84	8				8	
6	10	8	9	67	6	14	14	84	7				7	
6	8	8	8	56	7	8	8	56			312	98	410	
7	8	8	8	56	6	8	8	48			25		25	
7	8	8	8	56	7	8	8	56						
6	8	8	8	48	7	8	16	8	64		3		3	
6	12	12	12	72	6	12	12	12	72		184	142	326	
6	12	12	12	72	6	12	12	12	72		216		216	
6	12	12	11	71	6	12	12	12	72		25		25	
6	12	12	12	72	6	12	12	12	72		63	125	188	
6	12	12	12	72	6	12	12	12	72		1		1	
6	12	12	12	72	6	12	12	12	72		27		27	
6	11	11	11	66	6	13	13	13	78	42	306		348	
6	11	11	11	66	6	13	13	13	78	2			2	
6	11	11	11	66	6	13	13	13	78	2			2	
6	11	11½	11½	66½	6	13	13	13	78	10			10	
6	11	11	11	66	7	13	13	15	93	33			33	
6	11	11	11	66	6	13	13	13	78	62	190		252	
6	11	9	12	65	6	13	13	13	78	4			4	
6	11	9	11	64	6	13	13	13	78	4			4	
6	11	12	12	67	6	13	13	13	78	5			5	
6	11	11	11	66	7	13	13	13	91	1			1	
6	11	11	11	66	6	13	13	13	78	3			3	
6	11	11	11	66	6	13	10	75	52				62	
6	11	11	11	66	6	13	7	72	28				28	
6	11	10	10	65	6	13	14	79	2				2	
6	11	10	10	65	6	13	13	78	4				4	
6	11	10	10	65	6	13	10	75	1				1	
6	11	9½	9½	64½	6	13	13	13	78	37			37	
6	11	9	9	64	6	13	13	13	78	1			1	
6	11	9	9	64	6	13	13	13	78	109			109	
6	11	8½	8½	63½	6	13	13	13	78	44			44	
6	11	8	8	63	6	13	8	73	2				2	
6	11	6½	6½	61½	6	13	13	13	78	20			20	
6	11	6	6	61	6	13	13	13	78	45			45	
6	11	5½	5½	60½	7	13	13	13	91	35			35	
6	11	5½	5½	60½	6	13	13	13	78	42			42	

TABLE E (3).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—OPEN-HEARTH FURNACES—Concluded.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY—Concluded.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.					
Turns per week.	Day turns.				Night turns.				East-ern.	Pitts-burgh.	Great Lakes and Middle West.	South-ern.	Total.	
	Hours.				Hours.									
	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.	Turns per week.	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.						Per week.
6	10½	10½	-----	63	6	13½	-----	13½	81	193	-----	-----	-----	193
6	10	10	10	60	6	14	14	14	81	-----	-----	60	-----	60
6	10	10	10	60	6	12	-----	12	72	-----	2	-----	-----	2
6	10	10	-----	60	7	14	14	15	99	-----	20	-----	-----	20
6	10	10	-----	60	7	14	14	14	98	-----	7	-----	-----	7
6	10	10	-----	60	7	13	13	13	91	-----	15	-----	-----	15
6	10	10	-----	60	6	14	-----	14	84	51	-----	2	-----	53
6	10	9	-----	59	6	14	-----	12	82	8	-----	-----	-----	8
6	10	8	-----	58	6	14	-----	14	84	88	-----	-----	-----	88
6	10	5½	-----	55½	6	12	-----	12	72	27	-----	-----	-----	27
6	8	-----	8	48	7	8	16	8	64	-----	171	-----	-----	171
6	8	8	-----	48	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	8	8	-----	48	7	8	8	8	56	-----	-----	86	-----	86
-----	-----	-----	-----	-----	7	8	8	8	56	-----	-----	-----	-----	-----
6	8	8	-----	48	6	8	-----	8	48	-----	-----	50	-----	50
-----	-----	-----	-----	-----	7	8	8	8	56	-----	-----	-----	-----	-----

SUMMARY.

Item.	East-ern dis-trict.	Pitts-burgh dis-trict.	Great Lakes and Middle West dis-tricts.	South-ern dis-trict.	Total.	Per cent of employees who worked but one combination of days and hours.
Total open-hearth furnace employees.....	1,154	2,440	3,554	806	7,954	-----
Employees who worked—						
One combination of days and hours only.....	995	2,033	3,092	691	6,811	100
7-day week or straight or average day of 12 or more hours all or part of the time.....	870	1,845	2,538	590	5,843	86
7-day week all of the time.....	69	211	1,459	297	2,036	30
7-day week part of the time.....	343	956	167	8	1,474	22
Straight or average day of 12 or more hours all of the time.....	582	878	1,888	455	3,803	56
Straight or average day of 12 or more hours part of the time.....	245	836	27	-----	1,108	16
7-day week and straight or average day of 12 or more hours all of the time.....	47	82	1,001	162	1,292	19

Of the total number of open-hearth furnace employees, 6,811 worked but one combination of customary days and hours. Of these 6,811 employees, 5,843, or 86 per cent, regularly worked a 7-day week or a straight average day of 12 or more hours all or part of the time, 476 working days only, 54 working nights only, and 5,313 alternating between day and night work. Thirty per cent (2,036) had a 7-day week all of the time and 56 per cent (3,803) worked a straight or average day of 12 or more hours all of the time. Nineteen per cent (1,292) regularly worked a 7-day week and a straight or average day of 12 or more hours all of the time.

PUDDLING MILLS.

The 1922 survey includes 13 representative puddling mills which employed 2,758 men in all occupations. Of the total number of employees reported 2,316 are found in the principal productive occupations for which separate figures are given. Wages and hours of labor in this department were first obtained for the year 1914 and comparative figures are presented for the years 1914 to 1922.¹

Considering the principal productive occupations as a whole, the average full-time hours per week of employees in 1922 were 7 per cent less than in 1920 and 4 per cent less than in 1914. Again comparing the same years, average hourly earnings show a decline of 44 per cent since 1920, but the 1922 figure is still 55 per cent greater than that for 1914. Average full-time weekly earnings show a reduction of 48 per cent in 1922 as compared with 1920, and are 54 per cent greater than the 1914 average. The average hourly earnings for the department as a whole, including all occupations, were 49.6 cents in 1922 as compared with 88.5 cents in 1920.

The puddling mill produces wrought iron by oxidizing and removing most of the silicon, carbon, manganese, and phosphorus contained in pig iron, the operation being conducted on the hearth of a reverberatory furnace. On account of the intense heat and heavy labor involved in the puddling operation fewer workmen than formerly are taking up the puddling trade, as men can earn as much money in other skilled occupations and work under more favorable conditions. This shortage of apprentices has been mainly responsible for the combination "level-handed" which is reflected in the number of furnaces in operation.

In the last few years rapid progress has been made along the lines of developing mechanical puddling devices to counteract conditions which have led to the shortage of puddlers. As yet, however, no such method has been devised that will produce wrought iron in large quantities with uninterrupted success.

The work of bushelers is practically the same as that of puddlers except that scrap iron instead of pig iron is charged into the furnace.

The most significant facts concerning average hours and average earnings in each of the principal productive occupations of puddling mills are presented in Table A (4). Rollers and their crews are not shown for every plant reported. This is due to the fact that in some plants the money for total tonnage rolled was paid in a lump sum to the roller who was responsible for the work, and in a few of such instances it was impossible to get reliable data as to wages paid individuals in the rolling crew.

Considering the 20 selected occupations separately (21 occupations are shown for all years except 1922, no bushelers level-handed, with helpers, being reported for that year) and comparing 1922 with 1920, 16 show a decrease in average full-time hours per week ranging from 8.5 hours for hook-ups to 0.7 hour for puddlers' helpers. The remaining 4 occupations show only slight increases. Nine of the 16 occupa-

¹ No data were collected for the years 1916, 1917, 1918, or 1921.

tions which reported decreases show a smaller full-time average in 1922 than for any year covered by this bureau. Hook-ups in 1914 worked an average of 54.4 hours per week, which decreased to 51.8 in 1919. This average increased to 56.5 in 1920, but again decreased to 48 in 1922.

Average hourly earnings decreased perceptibly in all selected occupations when 1922 is compared with 1920 and 1919, but the 1922 averages still show a considerable increase over those for 1914 and 1915. While all 10 departments show a decrease in average hourly earnings in 1922 as compared with 1920, the greatest reduction is found in the puddling-mill department. For example, puddlers, level-handed, received an average of 41.6 cents per hour in 1914, which decreased to 39.2 cents in 1915. Owing to war conditions the average advanced to \$1.101 per hour in 1919 and continued to \$1.227 in 1920. In 1921, however, wages declined and in 1922 employees received an average of 62.9 cents per hour.

Average full-time weekly earnings followed very closely the course of average earnings per hour as full-time hours per week on the whole varied but little.

Puddling mills are usually in operation 6 days and 5 nights per week, the hours per turn (day) varying anywhere from 7 to 12 hours, with an average of about 9 hours, and Table A (4) shows that the hours worked by these employees as a whole were quite generally less than those worked in other departments. Only one occupation, that of roll engineers, shows any employees working over 72 hours per week in 1922. Twenty-one per cent of the employees in that occupation worked 84 hours in 1920, with 8 per cent in the group "over 72 and under 84," but in 1922 no 84-hour-week work was reported and only 14 per cent were classified as "Over 72 and under 84."

Index numbers for full-time hours per week, earnings per hour, and full-time weekly earnings are also contained in Table A (4). These are simply percentages computed from the averages presented in the table, using the average for 1914 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 4.

TABLE A (4).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1914 TO 1922, BY OCCUPATIONS—*PUDDLING MILLS*.¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Stockers:														
1914.....	28	300	57.6	\$0.205	\$11.78	100	100	100	12	45	11	30	1	.....
1915.....	28	304	58.1	.204	11.85	101	100	101	10	42	12	34	1	.....
1919.....	11	141	59.9	.486	29.11	104	237	247	11	11	15	61	2	.....
1920.....	15	407	61.3	.504	31.30	106	246	266	1	12	29	55	3	.....
1922.....	13	214	58.9	.396	23.64	102	193	201	8	32	7	53	(*)	.....

¹This table was published in the Monthly Labor Review for June, 1923.

²Less than 1 per cent.

72 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE A (4).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1914 TO 1922, BY OCCUPATIONS—PUDDLING MILLS—Continued.

Occupation and year.	Number of plants.	Number of employes.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60 and under 72.	Over 72 and under 84.	84		
Puddlers:															
1914.....	13	458	54.8	\$0.416	\$22.76	100	100	100	2	98					
1915.....	13	422	52.4	.390	20.45	96	94	90	2	98					
1919.....	7	176	50.9	1.126	57.31	93	271	252	31	69					
1920.....	8	187	49.2	1.311	64.69	90	315	284	37	63					
1922.....	9	203	48.5	.687	33.49	89	165	147	44	56					
Puddlers, level handed:															
1914.....	17	896	49.3	.416	20.37	100	100	100	49	51					
1915.....	17	924	48.0	.392	18.60	97	94	91	65	35					
1919.....	9	512	48.8	1.101	53.73	99	265	264	26	74					
1920.....	11	860	50.8	1.227	62.25	103	295	306	23	77					
1922.....	12	936	47.0	.629	29.22	95	151	143	59	40					
Puddler's helpers:															
1914.....	15	475	55.2	.241	13.25	100	100	100	2	98					
1915.....	15	456	52.8	.224	11.78	96	93	89	2	98					
1919.....	9	190	50.6	.695	35.17	92	288	265	33	67					
1920.....	9	209	49.4	.859	42.37	89	356	320	30	70					
1922.....	9	153	48.7	.421	20.59	88	175	155	37	63					
Bushelers:															
1914.....	4	18	50.4	.462	23.14	100	100	100	33	67					
1915.....	4	19	53.6	.413	22.03	106	89	95	16	84					
1919.....	4	41	46.0	.987	45.40	91	214	196	63	37					
1920.....	2	22	44.8	1.104	49.46	89	239	214	95	5					
1922.....	4	25	45.7	.818	37.46	91	177	162	96	4					
Bushelers, level handed:															
1914.....	6	98	47.1	.418	20.07	100	100	100	53	47					
1915.....	6	67	45.7	.419	19.37	97	100	97	64	36					
1919.....	6	197	41.4	1.573	65.12	88	376	324	99	1					
1920.....	4	179	41.4	1.894	77.85	88	453	385	96	4					
1922.....	8	206	43.4	.739	32.71	92	177	163	86	14					
Bushelers, level handed (with helpers):															
1914.....	9	274	43.4	.565	23.97	100	100	100	81	19					
1915.....	9	246	44.9	.523	23.16	103	93	97	71	29					
1919.....	1	24	42.7	1.547	66.06	98	274	276	100						
1920.....	1	55	42.7	1.786	76.26	98	316	318	100						
1922.....															
Busheler's helpers:															
1914.....	12	112	49.0	.264	12.79	100	100	100	50	50					
1915.....	12	96	50.0	.246	12.09	102	93	95	42	58		5			
1919.....	5	82	42.6	.626	26.67	87	237	209	82	18					
1920.....	3	49	43.5	.754	32.76	89	286	256	98	2					
1922.....	6	77	44.0	.522	23.09	90	198	181	83	17					
Heaters:															
1914.....	9	25	51.0	.709	35.28	100	100	100	48	44					
1915.....	9	27	50.9	.730	36.37	100	103	103	44	43		8			
1919.....	1	2	55.0	1.165	64.08	108	164	132		100					
1920.....	1	4	61.8	1.426	88.13	121	201	250		100					
1922.....	2	8	53.8	.915	48.38	105	129	137	50	50					
Heaters' helpers:															
1914.....	8	48	52.3	.311	15.63	100	100	100	50	29		13	8		
1915.....	8	52	52.3	.308	15.63	100	99	99	46	35		12	8		
1919.....	1	2	55.0	.577	31.74	105	186	203		100					
1920.....	1	18	57.0	.546	31.12	109	176	199		100					
1922.....	2	25	54.7	.450	23.99	105	145	153		100					

* None reported in 1922.

TABLE A (4).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1914 TO 1922, BY OCCUPATIONS—PUDDLING MILLS—Concluded.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under 60.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.
Bloom boys:														
1914	25	77	54.3	.201	10.79	100	100	100	16	73	5	6	.....	.....
1915	25	68	53.9	.199	10.62	99	99	98	18	68	3	12	.....	.....
1919	11	26	52.9	.656	34.70	97	326	322	27	54	.....	19	.....	.....
1920	13	38	53.2	.656	34.79	98	326	322	34	53	8	5	.....	.....
1922	10	32	51.0	.365	18.20	94	182	169	41	28	16	16	.....	.....
Roll engineers:														
1914	23	47	66.9	.239	15.92	100	100	100	.....	9	11	45	32	4
1915	23	45	66.9	.242	16.14	100	101	101	.....	9	11	40	36	.....
1919	12	25	65.2	.535	34.88	97	224	219	12	16	4	32	12	16
1920	12	24	72.5	.674	48.79	108	282	306	.....	4	4	29	38	8
1922	13	28	65.4	.425	27.87	98	178	175	14	7	4	54	7	21
Rollers:														
1914	24	66	53.1	.573	29.38	100	100	100	23	68	3	6	.....	.....
1915	24	64	52.4	.583	29.89	99	102	102	25	63	3	9	.....	.....
1919	12	38	47.0	1.843	86.62	89	322	295	53	47	.....	12	.....	.....
1920	12	31	50.8	2.197	108.15	96	388	368	29	68	3	.....	.....	.....
1922	12	33	48.4	.899	42.95	91	157	146	52	42	6	.....	.....	.....
Roughers:														
1914	20	71	51.9	.436	22.17	100	100	100	39	44	3	14	.....	.....
1915	20	69	51.8	.426	21.69	100	98	98	41	45	3	12	.....	.....
1919	8	25	45.2	1.298	58.67	87	288	265	64	36	.....	12	.....	.....
1920	10	33	49.7	1.407	68.75	96	323	310	59	48	12	7	.....	.....
1922	10	43	47.2	.587	27.69	91	135	125	47	47	7	.....	.....	.....
Catchers:														
1914	27	91	53.4	.362	18.99	100	100	100	21	69	4	5	.....	.....
1915	27	88	52.8	.368	18.89	99	100	99	22	68	5	6	.....	.....
1919	12	34	48.2	1.269	61.17	90	351	322	47	53	.....	.....	.....	.....
1920	13	42	50.7	1.291	64.07	95	357	337	33	62	5	5	.....	.....
1922	13	55	47.9	.572	27.28	90	158	144	45	51	4	.....	.....	.....
Hook-ups:														
1914	27	97	54.4	.251	13.58	100	100	100	19	60	4	18	.....	.....
1915	27	94	53.8	.233	12.40	99	93	91	19	61	4	16	.....	.....
1919	12	34	51.8	.832	44.65	95	343	329	32	50	.....	18	.....	.....
1920	13	37	56.5	.868	49.64	104	346	366	8	59	5	27	.....	.....
1922	12	50	48.0	.457	21.57	88	182	159	78	18	4	.....	.....	.....
Roll hands, other:														
1914	8	17	51.9	.286	14.75	100	100	100	18	82	.....	.....	.....	.....
1915	8	14	53.6	.295	15.86	103	103	108	21	64	.....	14	.....	.....
1919	3	11	50.7	.624	31.64	98	218	215	45	55	.....	.....	.....	.....
1920	6	15	51.5	.946	48.94	99	331	332	27	73	.....	.....	.....	.....
1922	5	15	51.6	.469	24.00	99	164	163	33	40	27	.....	.....	.....
Hot-bed men:														
1914	26	117	54.2	.245	13.10	100	103	100	21	59	3	16	.....	.....
1915	26	112	54.2	.243	12.98	100	99	99	22	54	4	21	.....	.....
1919	11	56	52.0	.655	34.06	98	267	260	27	57	.....	16	.....	.....
1920	13	81	57.0	.666	38.21	105	272	292	.....	69	4	27	.....	.....
1922	12	67	50.3	.416	20.91	93	170	160	60	30	3	7	.....	.....
Shearmen:														
1914	19	43	57.3	.239	13.70	100	100	100	.....	60	21	19	.....	.....
1915	19	39	57.8	.247	14.40	101	103	105	.....	56	15	26	.....	.....
1919	11	28	57.6	.528	30.41	101	221	222	7	57	.....	18	.....	.....
1920	13	45	55.2	.662	36.73	96	277	268	2	71	13	9	.....	.....
1922	13	38	52.4	.455	23.75	91	190	173	42	39	8	11	.....	.....
Shearmen's helpers:														
1914	20	110	58.0	.192	11.23	100	100	100	.....	60	9	31	.....	.....
1915	20	109	58.1	.196	11.50	100	102	102	.....	58	9	33	.....	.....
1919	9	57	57.6	.473	27.24	99	216	213	12	53	.....	35	.....	.....
1920	10	70	60.9	.527	32.24	105	274	287	.....	30	14	54	.....	.....
1922	13	84	55.1	.385	21.09	95	201	188	24	42	6	29	.....	.....
Laborers:														
1914	24	322	58.5	.173	10.35	100	100	100	.....	36	42	21	1	.....
1915	24	303	57.5	.167	9.66	97	97	93	.....	49	35	16	.....	.....
1919	12	236	64.1	.436	27.95	108	252	270	3	22	14	56	6	.....
1920	15	440	65.3	.457	30.41	110	284	294	.....	9	33	22	35	.....
1922	12	382	58.2	.305	18.44	99	176	178	.....	31	35	34	.....	.....

The number of employees reported in 1922 includes some duplications, or repeated employees, as stated in the general explanation of Table B (p. 15). Of the 2,412 employees reported in selected occupations for all districts combined there were 96 duplications, leaving 2,316 actually engaged, and the total of 2,859 employees shown for all occupations represents 2,758 individuals.

The gross number of employees reported, together with the net number of actual employees in selected occupations and in all occupations in each district and all districts combined, are shown in Table 11.

TABLE 11.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND IN ALL OCCUPATIONS, 1922, BY DISTRICTS—*PUDDLING MILLS.*

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number.
Eastern.....	774	30	744	874	30	844
Pittsburgh.....	798	24	774	874	25	849
Great Lakes and Middle West.....	487	20	467	599	22	577
Southern.....	353	22	331	512	24	488
Total.....	2,412	96	2,316	2,859	101	2,758

The customary working time per week of employees in the puddling-mill department for the years 1914 to 1922 has been classified, and the number and per cent of employees coming under each classification are shown in Table B (4).

Puddling mills are most commonly operated 6 days and 5 nights per week, as shown by the percentages in the column "5 days and 6 days alternately" in Table B (4).

Forty-nine per cent of the employees in selected occupations worked these turns in 1922 as compared with 65 per cent in 1920. Eighteen per cent came under the classification "5 days" per week in 1922, as compared with less than 1 per cent in 1920.

When all employees in all occupations are considered, 47 per cent worked 5 days and 6 days alternately, as compared with 60 per cent in 1920.

The largest percentage of 5-day workers in 1922 was reported in the Eastern district, while the greatest percentage of 6-day workers was shown in the Southern district.

TABLE B (4).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK, IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1914 TO 1922, BY YEARS—*PUDDLING MILLS.*

[For explanation of this table see p. 15.]

District.	Year.	Number of plants.	Number of employees. ¹	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—						
				5 days.	5 days and 6 days alter-nately.	5 days, 5 days, and 6 days in rotation.	6 days.	6 days and 7 days alter-nately.	7 days.	5 days.	5 days and 6 days alter-nately.	5 days, 5 days, and 6 days in rotation.	6 days.	6 days and 7 days alter-nately.	7 days.		
EASTERN.																	
Selected occupations.	1919	3	474	.....	312	142	13	5	2	.....	66	30	3	1	(²)	1
	1920	4	589	1	525	.....	60	.....	3	(²)	89	10	.....	.....	.....	.....
	1922	5	774	314	345	.....	115	.....	41	45	.....	15	.....	.....	.....	.....
All occupations.	1914	9	1,656	388	987	.....	239	16	26	23	60	.....	14	1	.....	2
	1915	9	1,506	882	402	.....	200	16	6	59	27	.....	13	1	(²)	1
	1920	4	618	1	542	.....	71	.....	4	(²)	88	.....	11	.....	.....	1
	1922	5	874	340	365	.....	154	4	11	39	42	.....	18	(²)	.....	1
Selected occupations.	1919	3	614	.....	580	8	23	3	.....	94	1	4	(²)	.....	.....
	1920	5	928	1	797	51	77	.....	2	(²)	86	5	8	.....	(²)	.....
	1922	3	798	1	518	187	86	.....	6	(²)	65	23	11	.....	(²)	1
All occupations.	1914	7	1,580	7	1,342	36	174	4	17	(²)	85	2	11	(²)	.....	1
	1915	7	1,640	5	1,265	204	147	2	17	(²)	77	12	9	(²)	.....	1
	1920	5	1,099	6	920	53	114	.....	6	1	84	5	10	.....	.....	1
	1922	3	874	1	538	190	123	.....	22	(²)	62	22	14	.....	.....	3
Selected occupations.	1919	4	713	.....	254	304	155	.....	.....	36	43	22	.....	.....	.....	.....
	1920	3	730	6	255	275	191	2	1	1	35	38	26	(²)	(²)	.....
	1922	2	487	4	221	235	23	2	2	1	45	48	5	(²)	(²)	.....
All occupations.	1914	8	913	.....	446	329	132	6	.....	49	36	14	1	.....	.....	.....
	1915	8	850	.....	453	293	98	6	.....	53	34	12	1	.....	.....	.....
	1920	3	997	6	337	377	267	2	8	1	34	38	27	(²)	.....	1
	1922	2	599	4	327	235	29	2	2	1	55	39	5	(²)	(²)	.....
Selected occupations.	1919	2	277	4	200	.....	73	.....	.....	1	72	.....	26	.....	.....	.....
	1920	3	472	.....	189	.....	278	.....	5	.....	40	.....	59	.....	.....	1
	1922	3	353	122	100	.....	129	.....	2	35	28	.....	37	.....	(²)	.....
All occupations.	1914	5	457	205	114	.....	136	.....	2	45	25	.....	30	.....	(²)	.....
	1915	5	476	206	118	.....	150	.....	2	43	25	.....	32	.....	(²)	.....
	1920	3	649	3	216	.....	413	.....	17	(²)	33	.....	64	.....	.....	3
	1922	3	512	135	107	.....	246	3	21	26	21	.....	48	1	.....	4
TOTAL.																	
Selected occupations.	1919	12	2,078	4	1,346	454	264	8	2	(²)	65	22	13	(²)	(²)	.....
	1920	15	2,719	8	1,766	326	606	2	11	(²)	65	12	22	(²)	(²)	.....
	1922	13	2,412	441	1,184	422	353	2	10	18	49	17	15	(²)	(²)	.....
All occupations.	1914	29	4,606	600	2,889	365	681	26	45	13	63	8	15	1	.....	1
	1915	29	4,472	1,093	2,238	497	595	24	25	24	50	11	13	1	.....	1
	1920	15	3,363	16	2,015	430	865	2	35	(²)	60	13	26	(²)	.....	1
	1922	13	2,859	480	1,337	425	552	9	56	17	47	15	19	(²)	.....	2

¹ The figures in this column for the years 1914 and 1915 represent the number of jobs, and for the years 1919, 1920, and 1922 the number of men employed.

² Less than 1 per cent.

Table C (4) presents the most significant facts relative to customary and actual working time, actual earnings per pay period, and earnings per hour of employees in puddling mills, by occupations and districts, for the year 1922. In addition, for each occupation are shown the number of positions and the number of employees actually working during the pay period and also the time and earnings of the same employees during the same period at occupations other than the occupation specified.

Referring to the occupation of puddlers, level handed, by way of illustration: Seven hundred and twenty-five positions were filled by a total of 936 men during the pay period scheduled. The average customary full time of the men working in these positions was 5.4 turns per week, 8.7 hours per turn, and 47 hours per week. In the distribution of the customary working time of the 936 actual employees, 554, or 59 per cent, worked 48 hours per week or under, and 374, or 40 per cent, worked over 48 and under 60 hours per week. Only 8 employees worked over 60 hours per week. The average full-time hours per week of roll engineers were higher than those of any other occupation.

The average hourly earnings of heaters were 91.5 cents, the highest of any selected occupation. The average hourly earnings for puddlers, level handed, were 62.9 cents for all districts combined, and ranged from 52 cents in the Eastern district to 79.6 cents in the Great Lakes and Middle West district. The range for average full-time weekly earnings in the same occupation was from \$25.32 in the Eastern district to \$36.78 in the Great Lakes and Middle West district.

Owing to the fact that a large number of the employees worked in more than one occupation during the pay period and in order to give the complete hours and earnings for such employees, separate figures are shown for each occupation, covering all occupations in which the employees were engaged. For example, 214 stockers averaged 80.5 hours during the pay period and also averaged 24.7 hours in other occupations, making a total of 105.2 hours per pay period in specified (stocker) and other occupations.

During the 80.5 hours they earned an average of \$31.91, or 39.6 cents per hour. When the work of these men in all occupations is considered, they earned \$41.25—that is, \$9.34 was earned in some other occupation than stocker.

The average earnings per hour in this department ranged from 30.5 cents for laborers to 91.5 cents for heaters. The average earnings per hour for all selected occupations combined were 52.8 cents.

TABLE C (4).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—PUDDLING MILLS.

[For explanation of this table see p. 16.]

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Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.						Average full-time earnings per week.	Scheduled pay period (15 days).									
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—					Specified occupation.			Specified and other occupations.						
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.		72	Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.		
Stockers:																					
Eastern.....	5	49	5.6	9.2	51.3	58	17	41					\$19.55	83.8	\$31.95	\$0.381	92.2	\$34.71	\$0.377		
Pittsburgh.....	3	42	5.8	9.9	63.0	51		12	14	25			26.59	97.1	40.97	.422	109.4	45.89	.419		
G. L. and M. W.....	2	48	5.5	11.6	64.1	88				88			25.06	66.3	25.91	.391	111.5	43.17	.387		
Southern.....	3	16	5.8	9.5	55.7	17		15	1		1		21.44	92.7	35.66	.385	104.7	39.73	.379		
Total.....	13	155	5.7	10.2	58.9	214	17	68	15	13	1		23.64	80.5	31.91	.396	105.2	41.25	.392		
Puddlers:																					
Eastern.....	5	91	5.2	9.6	49.9	168	61	107					32.48	49.4	32.16	.651	81.6	49.84	.611		
Pittsburgh.....	1	4	5.5	8.5	46.8	6	6						37.21	61.4	48.80	.795	72.2	56.12	.778		
Southern.....	3	23	5.2	8.3	43.4	29	22	7					38.54	45.2	40.12	.888	60.8	47.55	.781		
Total.....	9	118	5.2	9.3	48.5	203	89	114					33.49	49.2	33.79	.687	78.4	49.70	.634		
Puddlers, level handed:																					
Eastern.....	5	162	5.2	9.4	48.7	266	33	233					25.32	55.3	28.73	.520	77.7	43.07	.554		
Pittsburgh.....	3	457	5.5	8.5	46.3	577	427	130					30.19	68.0	44.34	.652	68.8	44.90	.653		
G. L. and M. W.....	1	48	5.4	8.6	46.2	50	42			8			36.78	79.7	63.47	.796	79.7	63.47	.796		
Southern.....	3	58	5.5	8.6	47.6	63	52	11					31.04	76.9	50.15	.652	81.6	53.49	.655		
Total.....	12	725	5.4	8.7	47.0	936	554	374		8			29.22	65.6	41.31	.629	72.8	45.95	.631		

PUDDLING MILLS.

TABLE C (4).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—*PUDDLING MILLS*—Continued.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.							Average full-time earnings per week.	Scheduled pay period (15 days).								
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupation.			Specified and other occupations.					
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72		Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.		
Puddler's helpers:																					
Eastern.....	5	92	5.2	9.6	50.1	119	27	92						\$20.49	69.6	\$28.50	\$0.409	78.3	\$32.52	\$0.415	
Pittsburgh.....	1	4	5.5	8.5	46.8	6	6							24.80	62.3	32.98	.530	69.3	36.42	.525	
Southern.....	3	23	5.2	8.3	43.4	28	23	5						20.09	47.2	21.84	.463	49.6	22.96	.463	
Total.....	9	119	5.2	9.3	48.7	153	56	97						20.59	65.2	27.46	.421	72.7	30.93	.425	
Bushelers:																					
Eastern.....	2	14	4.8	9.7	46.0	21	21							37.90	67.7	47.58	.824	87.1	63.10	.724	
Southern.....	2	4	5.3	8.4	44.5	4	3	1						35.11	70.5	55.64	.789	70.5	55.64	.789	
Total.....	4	18	4.9	9.4	45.7	25	24	1						37.46	59.8	48.87	.818	84.5	61.91	.733	
Bushelers, level handed:																					
Eastern.....	3	16	5.1	9.3	46.7	40	14	26						27.41	36.2	21.29	.587	83.6	44.97	.538	
Pittsburgh.....	2	4	5.5	8.8	48.1	21	19	2						44.01	18.2	16.68	.915	88.9	68.55	.771	
G. L. and M. W.....	2	82	5.3	8.0	42.7	143	143							32.62	45.7	34.90	.764	45.7	34.90	.764	
Southern.....	1	2	5.0	8.0	40.0	2	2							25.92	56.0	36.28	.648	56.0	36.28	.648	
Total.....	8	104	5.3	8.2	48.4	206	178	28						32.71	41.2	30.41	.739	57.6	40.30	.700	
Bushelers' helpers:																					
Eastern.....	2	14	4.8	9.8	46.6	19	7	12						22.23	64.6	30.86	.477	90.2	41.92	.465	
G. L. and M. W.....	2	30	5.3	8.0	42.7	54	54							23.74	45.3	25.18	.556	45.3	25.18	.556	
Southern.....	2	4	5.3	8.4	44.5	4	3	1						18.33	70.5	29.08	.412	70.5	29.08	.412	
Total.....	6	48	5.2	8.6	44.0	77	64	13						23.09	51.4	26.78	.522	57.7	29.51	.512	

Heaters:																				
Eastern.....	1	4	5.0	9.6	48.0	4	4							49.63	96.0	99.24	1.034	96.8	99.24	1.034
Southern.....	1	4	5.5	10.8	59.5	4		4						47.12	92.3	73.03	.792	92.3	73.03	.792
Total.....	2	8	5.3	10.2	53.8	8	4	4						48.38	94.1	86.13	.915	94.1	86.13	.915
Heaters' helpers:																				
Eastern.....	1	8	5.0	9.7	48.5	9		9						26.09	86.2	46.41	.538	92.9	48.78	.525
Southern.....	1	14	5.5	10.6	58.2	16		16						22.81	74.3	29.14	.392	96.6	35.54	.368
Total.....	2	22	5.3	10.3	54.7	25		25						23.99	78.6	35.35	.450	95.2	40.31	.423
Bloom boys:																				
Eastern.....	3	8	5.5	9.5	52.1	9	4	5						19.54	90.1	33.77	.375	103.3	41.24	.399
Pittsburgh.....	2	6	5.4	8.3	44.7	7	7							19.49	70.4	30.66	.436	97.4	43.22	.444
G. L. and M. W.....	2	4	5.4	9.8	53.3	7	2							21.69	72.0	29.28	.407	88.6	36.07	.407
Southern.....	3	6	5.5	9.9	54.1	9		4	5					18.15	57.3	13.90	.243	69.6	16.65	.239
Total.....	10	24	5.5	9.3	51.0	32	13	9	5	5				18.20	72.6	26.62	.365	89.3	33.63	.377
Roll engineers:																				
Eastern.....	5	9	5.5	12.0	65.9	9		2		5	2			24.45	144.6	53.59	.371	144.6	53.59	.371
Pittsburgh.....	3	8	5.8	10.5	59.8	9	4			4		1		29.30	96.1	47.13	.490	96.1	47.13	.490
G. L. and M. W.....	2	4	6.3	11.9	74.5	4				2		2		40.16	155.1	83.87	.539	155.1	83.87	.539
Southern.....	3	5	6.2	10.7	66.3	6				1	4			22.67	113.6	38.82	.342	125.6	41.58	.331
Total.....	13	26	5.8	11.3	65.4	28	4	2	1	15	2	4		27.87	123.9	52.63	.425	126.4	53.22	.421
Rollers:																				
Eastern.....	5	12	5.3	9.7	50.9	14	4	10						34.36	83.0	56.07	.675	93.6	60.18	.643
Pittsburgh.....	3	9	5.4	8.4	46.0	9	7	2						49.04	92.0	98.09	1.066	92.0	113.53	1.234
G. L. and M. W.....	2	6	5.3	8.0	42.7	6	6							46.46	82.7	89.98	1.088	82.7	89.98	1.088
Southern.....	2	4	5.3	10.6	55.1	4		2	2					54.05	83.3	81.71	.981	83.3	81.71	.981
Total.....	12	31	5.3	9.1	48.4	33	17	14	2					42.95	85.4	76.80	.899	89.9	92.76	.920
Roughers:																				
Eastern.....	2	10	4.9	9.7	47.3	13	2	11						23.51	72.7	36.13	.497	87.4	42.35	.485
Pittsburgh.....	3	11	5.5	8.5	46.4	12	9	3						27.00	85.0	49.51	.582	91.8	52.71	.574
G. L. and M. W.....	2	8	5.3	8.0	42.7	9	9							29.42	77.3	53.26	.689	85.3	58.21	.682
Southern.....	3	7	5.4	9.9	53.3	9		6	3					32.94	67.8	41.87	.618	68.8	42.13	.613
Total.....	10	36	5.3	9.0	47.2	43	20	20	3					27.69	76.1	44.65	.587	84.3	48.51	.576
Catchers:																				
Eastern.....	5	21	5.1	9.7	49.5	27	6	21						24.60	74.9	37.17	.497	90.4	43.54	.482
Pittsburgh.....	3	12	5.5	8.5	46.2	12	10	2						28.97	92.4	57.88	.627	92.4	57.88	.627
G. L. and M. W.....	2	9	5.3	8.0	42.7	9	9							29.89	78.2	54.74	.700	79.1	55.42	.701
Southern.....	3	5	5.4	10.2	54.5	7		5	2					31.34	60.7	34.89	.575	69.7	37.14	.533
Total.....	13	47	5.3	9.1	47.9	55	25	28	2					27.28	77.4	44.28	.572	86.3	47.80	.554

TABLE C (4).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—*PUDDLING MILLS*—Concluded.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.							Average full-time earnings per week.	Scheduled pay period (15 days).						
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupation.			Specified and other occupations.			
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72		Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Hook-ups:																			
Eastern.....	5	23	5.1	9.6	48.9	28	24	4					\$19.27	76.1	\$29.99	\$0.394	94.9	\$38.74	\$0.408
Pittsburgh.....	3	10	5.5	8.5	46.4	12	9	3					21.34	77.3	35.56	.460	89.3	41.45	.464
G. L. and M. W.....	2	6	5.3	8.0	42.7	6	6						32.92	82.7	63.71	.771	82.7	63.71	.771
Southern.....	2	4	5.3	10.6	55.1	4		2	2				21.32	83.3	32.20	.387	83.3	32.20	.387
Total.....	12	43	5.2	9.2	48.0	50	39	9	2				21.57	77.7	35.55	.457	91.1	41.86	.459
Roll hands, other:																			
Pittsburgh.....	2	5	5.4	8.4	45.4	7	5	2					22.25	55.9	27.36	.490	76.5	36.70	.480
Southern.....	3	7	5.3	10.7	56.1	8		4	4				25.53	67.1	30.49	.455	85.0	34.71	.408
Total.....	5	12	5.3	9.8	51.6	15	5	6	4				24.00	61.8	29.03	.469	81.0	35.64	.440
Hotbed men:																			
Eastern.....	4	21	5.2	10.0	51.9	24	15	19					19.36	86.3	32.19	.373	97.5	37.66	.386
Pittsburgh.....	3	18	5.4	8.3	45.0	27	23	4					20.79	50.2	23.20	.462	69.8	31.28	.448
G. L. and M. W.....	2	6	5.5	10.4	56.9	7	2		5				28.28	108.0	53.64	.497	118.7	58.01	.489
Southern.....	3	9	5.4	9.7	52.6	9		7	2				19.67	86.0	32.18	.374	97.3	34.39	.353
Total.....	12	54	5.3	9.4	50.3	67	40	20	2	5			20.91	74.0	30.81	.416	88.5	36.78	.415
Shearmen:																			
Eastern.....	5	11	5.5	8.7	48.0	15	11	4					24.29	68.7	34.75	.506	101.2	46.05	.455
Pittsburgh.....	3	7	5.4	9.1	49.7	10	5	5					20.79	25.79	29.38	.519	73.2	36.42	.497
G. L. and M. W.....	2	4	5.5	11.7	64.0	4				4			27.78	124.0	53.85	.434	124.0	53.85	.434
Southern.....	3	7	5.4	10.3	55.3	9		6	3				18.80	74.7	25.43	.340	82.6	28.09	.340
Total.....	13	29	5.5	9.6	52.4	38	16	15	3	4			23.75	72.7	33.13	.455	91.8	40.08	.437

Shearmen's helpers:																			
Eastern.....	5	20	5.6	8.9	49.4	29	18	11					18.92	68.1	26.11	.383	85.1	32.34	.380
Pittsburgh.....	3	16	5.5	9.8	53.5	21	2	19					24.18	76.6	34.65	.452	87.9	38.72	.440
G. L. and M. W.....	2	16	5.5	11.6	64.0	24				24			24.06	80.6	30.32	.376	104.8	39.51	.377
Southern.....	3	7	5.6	9.9	54.7	10		5	5				13.78	68.5	17.28	.252	96.3	23.61	.245
Total.....	13	59	5.5	10.0	55.1	84	20	35	5	24			21.09	73.8	28.39	.385	92.8	34.94	.377
Laborers:																			
Eastern.....	4	60	5.9	9.3	54.6	91		81		10			17.64	67.3	21.72	.323	101.6	35.34	.348
Pittsburgh.....	3	31	6.0	10.1	60.0	51			51				21.72	72.6	26.29	.362	104.4	38.86	.372
G. L. and M. W.....	2	52	5.5	11.7	64.7	119				119			23.36	55.5	20.01	.361	118.3	44.74	.378
Southern.....	3	70	5.9	9.9	58.6	121		39	82				12.83	66.5	14.60	.219	82.0	19.82	.242
Total.....	12	213	5.8	10.2	59.2	382		120	133	129			18.44	64.1	19.54	.305	101.0	33.82	.335

Table D (4) shows the number of employees and the average and classified earnings per hour for puddlers, level handed, and rollers, in 1922, by districts, and for all districts combined.

The range of hourly earnings for puddlers, level handed, was from 35 cents to \$1, with an average of 62.9 cents for all districts combined. The largest number of employees in any one group, 414, or 44 per cent, is shown in the classification "60 and under 70 cents."

In the occupation of rollers the average hourly earnings for the 33 employees shown were 90 cents. The distribution of earnings ranged from 50 cents to \$1.50.

TABLE D (4).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS—PUDDLING MILLS.

[For explanation of this table see p. 17.]

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earning per hour were—									
			35 and under 40 cents.	40 and under 45 cents.	45 and under 50 cents.	50 and under 60 cents.	60 and under 70 cents.	70 and under 80 cents.	80 and under 90 cents.	90 cents and under \$1.	\$1 and under \$1.25.	\$1.25 and under \$1.50.
PUDDLERS, LEVEL HANDED.												
Eastern.....	266	\$0.520		26	79	108	51	1	1			
Pittsburgh.....	557	.650			3	148	323	80	2		1	
G. L. and M. W.....	50	.796					8	17		25		
Southern.....	63	.652	2	6	2	2	32	17	2			
Total.....	936	.629	2	32	84	258	414	115	30	1		
ROLLERS.												
Eastern.....	14	.675				2	9	1			2	
Pittsburgh.....	9	1.065						1				
G. L. and M. W.....	6	1.088						2			7	1
Southern.....	4	.981						1	1		2	2
Total.....	33	.900				2	9	5	1	2	11	3

Customary turns per week, hours per turn, and full-time hours per week of those employees who regularly worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (4) for the puddling-mills department. As stated in the general explanation of this table (p. 17) data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (4).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—PUDDLING MILLS.

[This table includes only employees who worked but one combination of customary days and hours during pay period. For explanation of table see p. 17.]

DAY TURNS.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.					
Day turns.					Night turns.									
Turns per week.	Hours.				Turns per week.	Hours.								East-ern.	Pitts-burgh.	Great Lakes and Middle West.	South-ern.	Total.
	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.		Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.					
7	12	12	12	84										4
7	12	12	7	79						4			1	1
7	11½	11½	11½	80½						1				1
7	10½	9	6	87½									1	1
7	10	10	10	70						3			7	10
7	10	10	8	68									1	1
7	10	10	6	66									2	2
7	10	10	5	65						1				1
7	10	9	5	64						4				4
7	10	7	7	64									1	1
6	12	12		72					1				4	5
6	12	10		70						12				12
5	12			60					1				2	3

NIGHT TURNS.

					7	13	13	13	91					2	2
					7	12	12	12	84		4				4
					7	12	12	6	78					1	1
					7	10	10	10	70					4	4
					6	12		13	78		6				6
					6	12		12	72	1				2	3
					6	12		8	68		2				2
					6	11		13	68	2					2
					5	12			60		1			48	49

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

7	12	12	12	84	7	12	12	12	84	4				2	6
7	12	12	12	84	6	12		12	72	4			2		6
7	12	12	12	84	5	12		12	60				2		2
7	11	13	12	80	6	13		12	77		1				1
7	10	10	10	70	7	14	14	14	98	7					7
7	8	8	8	56	6	8		8	48					2	2
6	12	12		72	5	12			60	9					9
6	12	10		70	6	12		12	72				2		2
6	12	10		70	5	12			60		5		43		43
6	12	8		68	5	12			60		4		129		133
6	12	6		66	5	12			60					4	4
6	11	11		66	5	12			60				4		4
6	11	10		65	6	13		13	78	4					4
6	11	8½		63½	5	12			60	4					4
6	11	8		63	5	12			60				18		18
6	10	10		60	5	14		14	84	2					2
5	12			60	5	12			60					19	19
5	11			55	4	13			52	4					4

TABLE E (4).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—*PUDDLING MILLS*—Concluded.

SUMMARY.

Item.	East- ern district.	Pitts- burgh district.	Great Lakes and Middle West district.	South- ern district.	Total.	Per cent of employees who worked but one combi- nation of days and hours.
Total puddling mill employees.....	844	849	577	488	2,758	.....
Employees who worked—						
One combination of days and hours only.....	802	817	446	457	2,522	100
7-day week or straight or average day of 12 or more hours all or part of the time.....	43	48	200	103	394	16
7-day week all of the time.....	11	17	0	22	50	2
7-day week part of the time.....	4	1	4	2	11	(1)
Straight or average day of 12 or more hours all of the time.....	29	16	4	79	128	5
Straight or average day of 12 or more hours part of the time.....	14	23	196	6	239	9
7-day week and straight or average day of 12 or more hours all of the time.....	11	8	0	4	23	1

¹ Less than 1 per cent.

Of the total number of puddling-mill employees reported, 2,522 worked but one combination of customary days and hours. Of these 2,522 employees, 394, or 16 per cent, regularly worked a 7-day week or a straight or average day of 12 or more hours all or part of the time, 46 working days only, 73 working nights only, and 275 alternating between day and night work. Two per cent (50) worked a 7-day week all of the time, and 5 per cent (128) worked a straight or average day of 12 or more hours all of the time.

BLOOMING MILLS.

The 1922 survey includes 24 representative blooming mills which employed 4,132 men in all occupations. Of the total number of employees reported, 1,675 are found in the principal productive occupations for which separate figures are given. Data were first obtained for this department in 1910 and comparative figures are presented for the years 1910 to 1922.¹

Average full-time hours per week in all selected occupations combined have increased to some extent when 1922 is compared with 1920, but average earnings per hour and per week, as in all other departments, have decreased during that time. While average full-time hours in 1922 are 4 per cent higher than in 1920, they are still less than the average for any other year for which data are presented. Earnings per hour in 1921 began to decline and in 1922 were 28 per cent less than in 1920 and 23 per cent less than in 1919. When all occupations are considered, average earnings per hour decreased from 65.9 cents in 1920 to 47.2 cents in 1922.

The most significant facts concerning average hours and average earnings in each of the principal productive occupations of blooming mills are shown in Table A (5). Of the 12 occupations presented all show increases in average full-time hours per week when 1922 is compared with 1920, with the exception of laborers whose average decreased from 71.1 to 70.7 hours. Increases ranged from 1.9 hours for shearment's helpers to 6.2 hours for pit cranemen. The average full-time hours per week of pit cranemen in 1922 were 68.6 hours, which is the highest average of any year in this occupation since 1913, when employees worked an average of 69.3 hours.

Again comparing 1922 with 1920, all selected occupations show decreases in average hourly earnings ranging from 16 cents for shearment's helpers to 36.7 cents for heaters. In 1910 heaters received an average of 52.1 cents per hour and until 1917 the average fluctuated between 50 and 60 cents. In 1917 earnings advanced to an average of 75.6 cents and the increase continued to \$1.271 in 1920. Earnings declined to 90.4 cents per hour in 1922.

Average full-time weekly earnings followed very closely the course of average hourly earnings, as the variations in average full-time hours per week were very slight as compared to the changes in hourly earnings.

The increase in customary working time in this department in 1922 as compared with 1920 is easily seen from a study of the classification of employees by average full-time hours per week shown in this table. The heating crew and roll engineers have been the most affected by the increase. The rolling crew were also affected, but the outstanding fact shown as to them is the change of employees from the group "48 and under" to the group "Over 48 and under 60." The average full-time hours of laborers actually decreased, only 1 per cent working 84 hours in 1922 as compared with 15 per cent in 1920.

Index numbers for full-time hours per week, earnings per hour, and full-time weekly earnings are also contained in Table A (5). These are simply percentages computed from the averages presented in the table, using the average for 1913 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 15.

¹ No data were collected for the years 1916, 1918, and 1921.

TABLE A (5).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—*BLOOMING MILLS.*¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers (1913=100).			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	72	Over 72 and under 84.	84	
Pit cranimen:															
1910.....	18	99	69.6	\$0.315	\$21.41	100	85	84	.....	18	.....	11	51	4	16
1911.....	18	95	68.8	.309	21.01	99	84	83	.....	19	.....	15	49	6	11
1912.....	18	97	68.7	.328	22.33	99	89	88	.....	19	.....	19	46	6	10
1913.....	19	115	69.3	.369	25.39	100	100	100	.....	16	.....	12	52	16	4
1914.....	23	124	66.6	.357	23.29	96	97	92	5	17	3	11	44	16	3
1915.....	23	119	66.7	.375	24.44	96	102	96	5	20	3	5	44	22	1
1917.....	12	71	66.0	.546	35.02	95	148	138	21	9	.....	.....	56	14	.....
1919.....	19	138	67.2	.816	54.84	97	221	216	6	24	.....	1	46	17	6
1920.....	20	138	62.4	.871	54.07	90	236	213	12	36	.....	6	33	14	.....
1922.....	24	156	63.6	.611	42.00	99	166	165	.....	25	3	10	18	37	6
Heaters:															
1910.....	19	51	73.4	.521	37.88	103	88	90	.....	6	.....	4	61	8	22
1911.....	19	49	73.3	.512	37.50	103	86	90	.....	6	2	3	51	12	20
1912.....	19	55	72.9	.552	40.14	102	93	96	.....	5	2	7	60	7	18
1913.....	19	79	71.2	.594	41.86	100	100	100	.....	19	.....	5	38	23	15
1914.....	23	89	63.9	.542	37.03	97	91	88	.....	24	2	1	46	16	11
1915.....	23	84	69.9	.584	40.06	98	98	98	.....	21	2	1	42	24	10
1917.....	12	47	65.7	.756	49.85	92	127	119	.....	19	13	.....	55	9	4
1919.....	18	94	68.7	1.191	81.52	96	201	195	.....	11	15	.....	49	15	11
1920.....	20	106	64.8	1.271	81.92	91	214	196	.....	7	29	1	6	33	23
1922.....	24	115	68.9	.904	62.18	97	152	149	.....	23	.....	12	32	28	5
Heaters' helpers:															
1910.....	11	34	73.4	.344	24.62	114	96	108	.....	9	.....	12	35	26	18
1911.....	11	34	73.5	.368	26.71	114	101	117	.....	9	.....	12	35	18	26
1912.....	11	50	67.9	.352	23.68	105	98	104	.....	30	.....	8	32	12	18
1913.....	10	52	64.6	.359	22.76	100	100	100	.....	40	.....	8	19	31	2
1914.....	10	43	64.0	.337	20.95	98	94	92	.....	7	35	9	14	33	2
1915.....	10	39	62.1	.369	22.48	98	103	99	.....	46	10	.....	26	15	3
1917.....	3	15	59.2	.611	37.66	92	170	165	.....	60	.....	.....	13	27	.....
1919.....	13	62	64.1	.818	52.43	99	228	230	.....	5	37	.....	5	40	6
1920.....	14	77	60.3	.828	49.37	93	231	217	.....	5	51	.....	8	10	26
1922.....	17	90	65.6	.654	43.51	102	182	191	.....	42	2	4	17	29	6
Bottom makers:															
1910.....	16	60	70.5	.335	23.26	98	91	88	.....	10	.....	3	80	.....	7
1911.....	16	55	70.8	.331	23.24	98	90	88	.....	11	.....	5	67	9	7
1912.....	16	58	70.9	.347	24.44	99	95	93	.....	10	.....	5	69	9	7
1913.....	15	62	71.9	.367	26.32	100	100	100	.....	10	.....	6	48	26	10
1914.....	20	79	68.6	.370	24.68	95	101	94	4	19	.....	5	39	28	5
1915.....	20	76	68.5	.389	25.77	95	106	98	4	20	.....	3	38	33	3
1917.....	11	38	70.8	.497	34.59	98	135	131	.....	16	.....	.....	53	26	5
1919.....	16	104	69.4	.833	57.81	97	227	220	.....	8	10	.....	2	63	14
1920.....	17	122	63.2	.890	56.50	88	243	215	.....	16	25	.....	16	25	20
1922.....	21	119	66.6	.602	40.22	93	164	153	.....	7	24	2	11	29	9
Bottom makers' helpers:															
1910.....	12	47	70.3	.251	17.23	98	95	92	.....	13	.....	.....	79	.....	9
1911.....	12	46	70.2	.243	16.83	98	92	90	.....	13	.....	7	65	11	4
1912.....	13	50	70.6	.257	17.95	98	98	96	.....	12	.....	.....	60	24	4
1913.....	13	65	72.0	.263	18.72	100	100	100	.....	9	.....	.....	51	31	9
1914.....	17	70	69.8	.273	18.45	97	104	99	9	9	.....	.....	44	34	4
1915.....	17	76	70.5	.269	18.46	98	102	99	8	8	.....	.....	1	38	9
1917.....	9	44	71.3	.384	26.74	99	146	143	.....	14	.....	.....	50	18	9
1919.....	13	112	68.8	.659	45.34	96	251	242	.....	9	18	.....	43	17	13
1920.....	14	135	64.6	.654	43.05	90	249	230	.....	13	21	.....	9	28	29
1922.....	21	188	69.6	.463	32.33	97	176	173	.....	9	19	3	4	21	40
Roll engineers:															
1910.....	18	42	70.9	.392	27.12	104	83	88	7	7	.....	10	45	17	14
1911.....	18	40	70.9	.385	26.66	104	82	86	8	8	.....	13	38	20	15
1912.....	19	46	68.4	.437	28.79	100	93	93	13	13	.....	9	24	33	9
1913.....	19	52	68.5	.471	30.96	100	100	100	12	12	.....	8	37	29	4
1914.....	23	60	65.6	.447	28.30	96	95	91	20	10	3	3	43	17	3
1915.....	23	59	65.4	.471	29.81	95	100	96	20	10	3	2	46	15	3
1917.....	12	37	63.8	.678	41.20	93	144	133	32	8	.....	.....	38	22	.....
1919.....	19	60	64.1	.971	62.24	94	206	201	18	23	.....	.....	3	37	12
1920.....	20	63	60.9	1.017	61.68	89	216	199	5	49	3	3	22	17	.....
1922.....	23	78	63.3	.751	47.72	92	159	154	4	35	15	12	18	13	4

¹ This table was published in the Monthly Labor Review for June, 1923.

TABLE A (5).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—BLOOMING MILLS—Concluded.

Occupation and year.	Number of plants.	Number of employes.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84
Rollers:															
1910.....	18	46	67.6	\$0.605	\$40.00	102	86	89	13	7	.....	11	63	.....	7
1911.....	18	41	66.6	.585	38.49	101	83	86	7	15	.....	15	59	5	.....
1912.....	19	46	65.9	.632	40.53	100	90	90	13	13	.....	13	52	9	.....
1913.....	19	46	66.2	.701	44.98	100	100	100	13	13	.....	13	48	13	.....
1914.....	23	54	63.6	.684	42.44	96	98	94	17	17	4	6	57	.....	.....
1915.....	23	53	63.5	.697	43.26	96	99	96	17	17	4	4	58	.....	.....
1917.....	12	34	62.4	.912	55.64	94	130	124	35	9	.....	.....	44	12	.....
1919.....	18	51	62.6	1.389	86.95	95	198	193	29	14	.....	4	45	4	4
1920.....	20	65	57.9	1.473	84.73	87	210	188	38	17	5	3	28	9	.....
1922.....	24	71	60.9	1.175	71.31	92	168	159	7	41	7	11	18	15	.....
Manipulators:															
1910.....	19	52	68.4	.365	24.21	105	85	90	12	6	.....	13	56	6	8
1911.....	19	48	67.9	.350	23.26	104	81	87	6	13	.....	17	50	10	4
1912.....	19	49	66.8	.388	24.92	102	90	93	12	12	.....	12	49	10	4
1913.....	19	60	65.3	.431	26.86	100	100	100	10	20	.....	13	42	15	.....
1914.....	23	62	62.4	.394	23.95	96	91	89	19	19	3	5	53	.....	.....
1915.....	23	60	63.4	.420	25.81	97	97	96	15	20	3	3	58	.....	.....
1917.....	12	34	62.4	.639	37.75	96	148	141	35	9	.....	.....	44	12	.....
1919.....	19	65	62.4	.935	58.34	96	217	217	26	18	.....	3	43	6	3
1920.....	20	82	58.7	.926	53.80	90	215	200	32	16	6	2	39	5	.....
1922.....	24	88	61.6	.692	42.58	94	161	159	7	39	5	9	33	8	.....
Table men:															
1910.....	13	36	69.3	.271	18.03	102	86	86	8	8	.....	11	56	6	11
1911.....	13	35	68.7	.254	17.05	101	80	81	.....	17	.....	17	49	11	6
1912.....	13	35	68.7	.285	19.00	101	90	91	.....	17	.....	17	49	11	6
1913.....	12	31	68.0	.316	20.95	100	100	100	.....	19	.....	18	55	13	.....
1914.....	14	36	63.6	.314	19.36	94	99	92	17	17	6	3	58	.....	.....
1915.....	14	34	63.1	.327	19.94	93	103	95	18	18	6	3	56	.....	.....
1917.....	4	13	63.1	.414	25.51	93	131	122	.....	46	.....	.....	38	15	.....
1919.....	9	33	62.3	.663	41.30	92	210	197	24	21	.....	6	42	.....	6
1920.....	14	53	59.1	.687	40.31	87	217	192	34	13	6	4	36	8	.....
1922.....	15	57	61.1	.505	31.56	90	160	151	7	39	5	7	21	21	.....
Shearmen:															
1910.....	19	48	70.0	.303	20.85	104	82	86	6	6	.....	8	53	13	8
1911.....	19	46	69.4	.306	20.96	103	83	87	7	7	.....	13	61	9	4
1912.....	19	52	69.8	.319	21.93	104	86	91	6	6	.....	12	65	8	4
1913.....	19	56	67.2	.370	24.23	100	100	100	16	5	.....	11	50	18	.....
1914.....	23	65	65.0	.345	21.84	97	93	90	14	14	3	8	62	.....	.....
1915.....	23	62	65.9	.362	23.09	98	98	95	10	15	3	6	66	.....	.....
1917.....	12	30	65.9	.523	33.41	98	141	138	20	10	.....	.....	57	13	.....
1919.....	19	59	64.9	.816	52.96	97	221	219	24	10	.....	3	53	7	3
1920.....	20	78	59.4	.813	48.27	88	220	199	31	21	3	5	38	3	.....
1922.....	24	90	62.8	.599	37.89	93	162	156	13	23	4	14	29	16	.....
Shearmen's helpers:															
1910.....	18	100	70.9	.218	15.15	102	82	83	3	9	.....	8	56	10	14
1911.....	18	96	69.5	.217	14.90	100	81	82	3	9	.....	15	58	13	2
1912.....	18	99	70.2	.230	15.93	101	86	88	.....	9	.....	14	65	10	2
1913.....	18	111	69.5	.267	18.17	100	100	100	5	8	.....	9	56	22	.....
1914.....	20	113	68.4	.256	17.23	98	96	95	3	11	5	2	80	.....	.....
1915.....	20	114	68.5	.258	17.35	99	97	95	3	11	5	2	78	2	.....
1917.....	10	29	68.1	.412	27.60	98	154	152	10	10	.....	.....	66	14	.....
1919.....	19	159	68.8	.610	41.97	99	228	231	8	10	.....	7	65	6	5
1920.....	19	168	62.7	.619	38.95	90	232	214	16	18	2	7	48	8	.....
1922.....	23	218	64.6	.459	29.76	93	172	164	2	26	4	20	30	18	.....
Laborers:															
1910.....	19	449	74.1	.162	11.97	101	88	88	.....	1	2	13	54	6	24
1911.....	19	363	73.7	.163	12.02	100	89	89	.....	1	4	9	59	9	18
1912.....	19	396	73.8	.164	12.13	101	89	90	.....	1	3	10	57	11	18
1913.....	19	352	73.4	.184	13.53	100	100	100	.....	1	3	16	54	12	14
1914.....	22	267	71.7	.187	13.39	98	102	99	(1)	.....	4	17	69	5	4
1915.....	22	290	72.3	.187	13.49	99	102	100	(1)	.....	2	16	66	13	3
1917.....	11	388	74.3	.287	21.28	101	156	157	.....	5	.....	.....	66	28	1
1919.....	19	440	70.0	.469	32.83	95	255	243	13	3	1	14	43	16	11
1920.....	18	439	71.1	.511	36.43	97	278	269	12	(1)	3	10	38	22	15
1922.....	23	682	70.7	.350	24.84	96	190	184	1	10	14	5	35	34	1

The number of employees reported in 1922 is not always the actual number of employees, as the totals in most cases contain some duplications, or repeated employees, as has been explained in the general explanation of Table B (p. 15). Of the 1,908 employees reported in selected occupations for all districts combined 1,675 are actually engaged and the 4,411 employees shown in all occupations represent 4,132 actual employees.

The number of employees reported, together with the net number of actual employees for selected and all occupations, in each district and for all districts combined, are shown in Table 12.

TABLE 12.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND ALL OCCUPATIONS, 1922, BY DISTRICTS.—*BLOOMING MILLS.*

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number.
Eastern.....	310	22	288	630	32	598
Pittsburgh.....	826	135	691	1,716	150	1,566
Great Lakes and Middle West.....	578	71	507	1,610	90	1,520
Southern.....	194	5	189	455	7	448
Total.....	1,908	233	1,675	4,411	279	4,132

The customary working time per week of employees in the blooming-mill department for the years 1910 to 1922 has been classified, and the number and per cent of employees coming under each classification are shown in Table B (5):

Practically all employees in the blooming-mill department work 6 days, 7 days, or 6 days and 7 days alternately, the largest percentage working 6 days. The heading "6 days and 7 days alternately" indicates that the plants were running 7 days and 6 nights or 6 days and 7 nights each week, being shut down for one day or one night each week, and that the employees reported under this heading worked 7 turns one week and 6 turns the next. Employees working on continuous operations and who are relieved one turn every two weeks are also included under this heading.

When employees for selected occupations in all districts combined are considered, the percentage working 6 days per week in 1922 is 53, which is the lowest for any year data are presented. There was a slight increase in 1922 in the number of employees working 6 days and 7 days alternately, the percentage for that year being 22 as compared with 19 in 1920.

Fifty-six per cent of the employees in all occupations worked 6 days per week in 1922 as compared with 67 per cent in 1920 and 74 per cent in 1914.

The greatest change in 7-day workers in the selected occupations took place in the Pittsburgh district. In 1922, 14 per cent were found regularly working a week of this length as compared with 3 per cent in 1920. The percentage of employees in selected occupations in all districts combined working 7 days per week remained the same in 1922 as in 1920.

TABLE B (5).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1910 TO 1922. BY YEARS—BLOOMING MILLS.

[For explanation of this table, see p. 15.]

District.	Year.	Number of plants.	Number of employees. ¹	Number of employees whose customary working time per week was—						Per cent of employees whose customary working time per week was—						
				5 days.	5 days and 6 days alternately.	6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	5 days.	5 days and 6 days alternately.	6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.
EASTERN.																
Selected occupations.....	1910	3	110	.....	70	6	25	.....	.....	9	.....	64	6	23	.....	8
	1911	3	97	.....	52	10	22	.....	.....	13	.....	54	10	23	.....	13
	1912	3	95	.....	46	14	22	.....	.....	13	.....	48	15	23	.....	14
	1913	3	95	.....	46	12	24	.....	.....	13	.....	48	13	25	.....	14
	1914	3	94	.....	27	18	45	.....	.....	4	29	19	48	.....	4	5
	1915	3	86	.....	27	10	45	.....	.....	4	31	12	52	.....	5	5
	1917	1	24	.....	.....	.....	24	.....	.....	.....	.....	.....	100	.....	.....	.....
	1919	3	98	.....	.....	88	.....	.....	10	.....	.....	90	.....	.....	.....	10
	1920	3	107	.....	23	4	59	.....	18	3	21	4	55	17	.....	3
	1922	5	310	.....	20	194	89	.....	7	.....	.....	6	63	29	.....	2
All occupations.....	1914	3	248	42	50	128	10	.....	.....	18	17	20	52	4	.....	7
	1915	3	239	52	38	118	11	.....	.....	20	22	16	49	5	.....	8
	1920	3	248	40	8	155	29	.....	.....	16	16	3	63	12	.....	6
	1922	5	630	1	41	346	156	.....	.....	86	(*)	7	55	25	.....	14
PITTSBURGH.																
Selected occupations.....	1910	8	522	.....	.....	426	83	.....	.....	13	.....	.....	82	16	.....	3
	1911	8	480	.....	.....	355	85	.....	.....	39	.....	.....	74	18	.....	8
	1912	8	493	.....	.....	354	92	.....	.....	47	.....	.....	72	19	.....	10
	1913	8	490	.....	.....	303	64	69	6	48	.....	.....	62	13	14	1
	1914	10	524	.....	.....	371	61	60	3	29	.....	.....	71	12	11	1
	1915	10	546	.....	.....	365	89	60	3	29	.....	.....	67	16	11	1
	1917	5	438	.....	.....	281	103	54	.....	.....	.....	.....	64	24	12	.....
	1919	7	580	.....	.....	391	28	114	.....	47	.....	.....	67	5	20	.....
	1920	8	636	.....	4	370	225	20	.....	17	.....	.....	58	35	3	.....
	1922	8	826	.....	88	376	165	76	9	112	.....	11	46	20	9	1

The figures in this column for the years 1910 to 1917 represent the number of jobs, and for the years 1919, 1920, and 1922 the actual number of men employed.

BLOOMING MILLS.

TABLE B (5).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1910 TO 1922, BY YEARS—BLOOMING MILLS—Concluded.

District.	Year.	Number of plants.	Number of employees.	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—						
				5 days.	5 days and 6 days alternately.	6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	5 days.	5 days and 6 days alternately.	6 days.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.
All occupations.....	1914	10	1,216			879	129	69	3	136			72	11	6	(?)	11
	1915	10	1,364			966	198	69	3	133			71	14	5	(?)	10
	1920	8	1,750	1	9	1,154	397	21		168	(?)	1	66	23	1		10
	1922	8	1,716	3	184	883	287	78		272	(?)	11	51	17	5	1	16
GREAT LAKES AND MIDDLE WEST.	Selected occupations.....	1910	6	346			205	2		139			59	1			40
	1911	6	296			188	24			94			64	8			28
	1912	6	328			209	22			97			64	7			30
	1913	6	360			259	56			45			72	16			13
	1914	7	354			307	16	6	7	18			87	5	2	2	5
	1915	7	355			298	20	12	18	12			83	6	3	5	3
	1917	4	208			100				100			100				
	1919	7	569			356	122	48	19	24			63	21	8	3	4
	1920	6	447			293	9	27	18	100			66	2	6	4	22
	1922	8	578			295	139	47	31	66			51	24	8	5	11
All occupations.....	1914	7	744			652	28	6	7	51			88	4	1	1	7
	1915	7	792			672	34	12	18	56			85	4	2	2	7
	1920	6	1,266			811	81	27	19	328			64	6	2	2	26
	1922	8	1,610			870	254	70	56	360			54	16	4	3	22
SOUTHERN.	Selected occupations.....	1910	2	86			61			25			71				29
	1911	2	75	1		49	12			13		1	65	16			17
	1912	2	72	1		55	12			4		1	76	17			6
	1913	2	74			66	6			2			89	8			3
	1914	3	86			76	5			5			88	6			6
	1915	3	79			74	1			4			94	1			5
	1917	2	110			58	44			8			53	40			7
	1919	2	130			45				85			35				65
	1920	3	195			145	8		13	29			74	4		7	15
	1922	3	194			151	22			21			78	11			10

All occupations.....	1914	3	268			184	5			79			69	2			29
	1915	3	294			174	5			85			66	2			32
	1920	3	388			333	8		16	31			86	2			8
	1922	3	455			354	43			58			78	9	4		13
TOTAL.																	
Selected occupations.....	1910	19	1,064		70	698	110			186		7	66	10			18
	1911	19	948	1	52	602	144			149	(¹)	6	64	15			16
	1912	19	988	1	46	632	148			161	(¹)	5	64	15			16
	1913	19	1,019		46	640	150	69		108		5	63	15	7		11
	1914	23	1,058	27	18	799	82	66	10	56	3	2	76	8	6		5
	1915	23	1,066	27	10	777	110	72	21	49	3	1	73	10	7		5
	1917	12	780			556	171	45		8			71	22	6		1
	1919	19	1,377			880	150	162	19	166			64	11	12		12
	1920	20	1,385	23	8	867	260	60	18	149	2	1	63	19	4		11
	1922	24	1,908		108	1,016	415	123	40	206		6	53	22	6		11
	All occupations.....	1914	23	2,476	42	50	1,843	172	75	10	284	2	2	74	7	8	(²)	11
1915		23	2,659	52	38	1,990	243	81	21	294	2	1	73	9	3		11
1920		20	3,652	41	17	2,453	515	64	19	543	1		67	14	2		15
1922		24	4,411	4	225	2,453	740	148	65	776	(²)	5	56	17	3		18

¹ Less than 1 per cent.

Table C (5) presents the most significant facts relative to customary and actual working time, actual earnings per pay period, and earnings per hour of employees in the selected occupations in blooming mills in 1922, by occupations and districts. In addition, for each occupation are shown the number of positions and the number of employees actually working during the pay period and also the time and earnings of the same employees during the same period at occupations other than the occupation specified.

Referring to the occupation of pit craneman by way of illustration: In the 24 plants reported there were 133 positions. Some employees worked short or broken time during the pay period scheduled and 156 men were required to fill these positions.

The number of turns per week for all employees in the different occupations for all districts combined ranged from 6 to 6.3 per week. The heating crew and roll engineers had a slightly higher average number of turns than the rolling crew, as the heating crew often worked on gas or repair turns when the mill was not producing.

The average hours per week for rollers were lower than those for any occupation (60.9), while those for laborers were the highest (70.7). In the occupation of bottom makers 11 employees out of a total of 119 worked 84 hours per week regularly. This is the largest number in any occupation who worked 84 hours.

Rollers received the highest average hourly earnings in this department, ranging from \$1.143 in the Great Lakes and Middle West district to \$1.225 in the Eastern district. The average for all districts combined was \$1.175. Earnings for laborers were the lowest, the range being from 28.3 cents in the Southern district to 37.4 cents cents per hour in the Great Lakes and Middle West district. The average for all districts combined was 35 cents.

Average hours actually worked per pay period ranged from 71.2 for laborers to 121.5 for pit cranemen. Average earnings per pay period for selected occupations ranged from \$24.93 for laborers to \$118.23 for rollers.

Owing to the fact that many of the employees worked at more than one occupation during the period reported, separate figures which include the data for all occupations at which such employees worked are shown for each occupation. For example, the 115 heaters averaged 105.4 hours and earned \$95.22, or an average of 90.4 cents per hour. During the same period of time they averaged 30.4 hours at other occupations, giving them a total average of 135.8 hours and \$117.60 in earnings, or an average of 86.6 cents per hour.

TABLE C (5).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—BLOOMING MILLS.

[For explanation of this table see p. 16.]

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.							Average full-time earnings per week.	Scheduled pay period (15 days).							
		Number.	Average customary full time of employes in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupation.			Specified and other occupations.				
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60	60	Over 60 and under 72	72		Over 72 and under 84	84	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Pit cranemen:																				
Eastern.....	5	22	6.3	11.6	73.6	23	4				19	42.76	149.9	\$87.08	\$0.561	157.2	\$90.28	\$0.574		
Pittsburgh.....	8	38	6.2	11.2	89.6	47	6		14	8	19	43.71	116.6	73.19	.623	126.3	78.78	.624		
G. L. and M. W.....	8	58	6.3	10.4	66.0	68	26	5		9	20	40.00	116.6	70.70	.606	136.6	80.59	.590		
Southern.....	3	15	6.9	10.9	69.5	18	3		2	11	2	44.13	116.8	74.18	.635	138.6	85.59	.618		
Total.....	24	133	6.3	10.9	68.6	156	39	5	16	28	58	42.00	121.5	74.27	.611	136.7	82.05	.600		
Heaters:																				
Eastern.....	5	14	6.2	12.0	74.8	15			2		13	74.20	143.7	142.56	.992	151.0	145.73	.965		
Pittsburgh.....	8	30	6.2	11.1	83.2	46	6		12	20	8	83.49	93.6	87.15	.931	131.5	116.06	.883		
G. L. and M. W.....	8	35	6.3	10.4	65.9	44	20			11	8	55.16	106.2	88.84	.837	133.0	107.47	.808		
Southern.....	3	6	6.3	12.0	76.0	10				6	3	69.01	98.4	89.37	.908	145.6	127.05	.873		
Total.....	24	85	6.3	11.0	68.9	115	26	14	37	32	6	62.18	105.4	95.22	.904	135.8	117.60	.866		
Heaters' helpers:																				
Eastern.....	5	16	6.2	11.6	71.8	19		2	4		13	39.56	126.2	69.56	.551	144.8	77.05	.532		
Pittsburgh.....	4	16	6.2	9.1	57.4	25	19			4	2	41.44	77.4	55.90	.722	104.7	74.41	.711		
G. L. and M. W.....	6	23	6.5	9.9	64.8	34	19			1	9	42.06	84.2	54.62	.649	132.0	76.66	.581		
Southern.....	2	6	6.2	12.0	74.2	12				10	2	58.17	83.8	65.75	.784	146.0	100.85	.691		
Total.....	17	61	6.3	10.4	65.6	90	38	2	4	15	26	43.51	91.1	59.61	.654	129.0	79.34	.615		

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BLOOMING MILLS.

TABLE C (5).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—BLOOMING MILLS—Concluded.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.								Average full-time earnings per week.	Scheduled pay period (15 days).						
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—							Specified occupation.			Specified and other occupations.			
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60	60	Over 60 and under 72	72	Over 72 and under 84		84	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Bottom makers:																				
Eastern.....	3	14	6.2	11.1	69.0	17				11		6		\$33.47	116.7	\$56.55	\$0.485	128.0	\$61.09	\$0.477
Pittsburgh.....	8	36	6.0	10.7	63.9	49		24		2		15	8	46.01	92.1	66.34	.720	123.9	85.24	.688
G. L. and M. W.....	7	25	6.3	10.4	66.0	38	8	4	2			11	4	35.57	90.5	48.81	.539	124.8	64.74	.519
Southern.....	3	8	6.4	12.0	76.5	15						9	4	40.77	87.5	46.65	.533	156.8	77.83	.497
Total.....	21	83	6.2	10.8	66.6	119	8	28	2	13	35	22	11	40.22	94.5	56.86	.602	128.9	74.31	.576
Bottom makers' helpers:																				
Eastern.....	3	19	6.4	11.7	75.7	30		3				27		31.49	99.7	41.47	.416	121.7	48.48	.398
Pittsburgh.....	8	38	6.1	11.0	66.9	58		23		7	14	14		36.39	83.7	45.51	.544	114.5	60.31	.527
G. L. and M. W.....	7	46	6.2	10.4	64.8	71	17	9	5			12	28	29.68	81.1	37.13	.458	117.2	52.46	.448
Southern.....	3	23	6.5	12.0	78.3	29						14	6	31.55	128.3	51.65	.408	159.3	64.85	.407
Total.....	21	126	6.3	11.1	69.6	188	17	35	5	7	40	75	9	32.33	92.1	42.65	.463	123.6	56.16	.454
Roll engineers:																				
Eastern.....	4	10	6.1	10.7	65.5	12		4	3			5		51.61	115.8	91.17	.788	129.8	98.97	.762
Pittsburgh.....	8	21	6.2	9.7	60.6	30		12	5	7	6			46.60	85.2	65.57	.769	111.9	77.31	.691
G. L. and M. W.....	8	22	6.5	9.8	63.3	27	3	11	4			2	4	45.64	113.8	82.02	.721	132.3	90.83	.686
Southern.....	3	5	6.4	11.1	70.6	9				2	6	1		52.46	90.2	67.06	.743	123.6	87.47	.708
Total.....	23	58	6.3	10.0	63.3	78	3	27	12	9	14	10	3	47.71	100.4	75.38	.751	123.1	86.49	.703

Table D (5) shows the number of employees and the average and classified earnings per hour for heaters and roll engineers in 1922, by districts, and for all districts combined.

The range of hourly earnings for roll engineers was 45 cents to \$1.25 and for heaters 40 cents to \$1.50. The highest average hourly earnings for both heaters and roll engineers were found in the Eastern district, while the lowest for both occupations were found in the Great Lakes and Middle West district.

TABLE D (5).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS — *BLOOMING MILLS*.

[For explanation of this table see p. 17.]

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—								
			40 and under 45 cents.	45 and under 50 cents.	50 and under 60 cents.	60 and under 70 cents.	70 and under 80 cents.	80 and under 90 cents.	90 and under \$1.00.	\$1.00 and under \$1.25.	\$1.25 and under \$1.50.
HEATERS.											
Eastern.....	15	\$0.992				2		4	3	4	2
Pittsburgh.....	46	.931	6	1		2	4	8	10	12	3
Great Lakes and Middle West.....	44	.837		4		5	2	13	12	5	3
Southern.....	10	.908	1			1		3	3	2	
Total.....	115	.904	7	5		10	6	28	28	23	8
ROLL ENGINEERS.											
Eastern.....	12	.788			1	1	3	5	1	1	
Pittsburgh.....	30	.769			5	6	10	1	4	4	
Great Lakes and Middle West.....	27	.721		1	5	8	5	1	4	3	
Southern.....	9	.743		2	1	2		1	1	2	
Total.....	78	.751		3	12	17	18	8	10	10	

Customary turns per week, hours per turn, and full-time hours per week of those employees who regularly work 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (5) for the blooming-mills department. As stated in the general explanation of this table (p. 17), data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (5).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BLOOMING MILLS.

[This table includes only employees who worked but one combination of customary days and hours during pay period. For explanation of table see p. 17.]

DAY TURNS.

Customary turns and hours worked.					Number of employees who worked each specified combination of customary turns and hours, by districts									
Day turns.					Night turns.				East ern.	Pitts- burgh.	Great Lakes and Middle West.	South- ern.	Total.	
Turns per week.	Hours.				Turns per week.	Hours.								
	Mon- day to Fri- day.	Sat- ur- day.	Sun- day.	Per week.		Mon- day to Fri- day.	Sat- ur- day.	Sun- day.						Per week.
7	12	12	12	84					14	2	22	12	50	
7	12	12	6	78								3	3	
7	12	12	5	77					1				1	
7	11½	9½	8½	75½						32			32	
7	11	11	11	77					3	1	4		8	
7	11	11	5	71					8				8	
7	11	10	10	75						4			4	
7	10½	10½	10½	73½							2		2	
7	10	10	14	74						4			4	
7	10	10	10	70										
7	10	10	10	70						1	30		31	
7	10	10	8	68							1		1	
7	10	10	3	63							1		1	
7	8	8	8	56							1		1	
6	12	12	12	72							23	1	24	
6	12	12	11	71							1		1	
6	12	12		72					59		85	30	174	
6	12	11		71					1				1	

NIGHT TURNS.

					7	14	14	14	98			3	3
					7	13	13	13	91		1		1
					7	12	12	12	84	1		1	2
					7	10	10	11	71		1		1
					6	12	12	12	72			1	1
					6	12		12	72	7			8
					5	12			60		3		3

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

7	12	12	12	84	7	12	12	12	84	36	69	126	2	233
7	12	12	12	84	6	12		12	72	90	61		9	160
6	12	12	12	84	6	12		12	72					
6	12	12	12	84	7	12	12	12	84			1	7	8
7	12	12	12	84	6	12		12	72	11				11
7	12	12	12	84	6	12		12	72					
7	12	12	10	82	6	12		12	72		2			2
7	12	12	4	76	6	12		12	72		5			5
7	12	8	12	80	6	12		12	72	11				11
7	11	11	11	77	7	13	13	13	91	16	27	17	17	77
7	11	11	11	77	6	13		13	78		8		2	10
7	11	11	6	71	6	13		12	77	19				19
7	11	10	11	76	6	11		12	67		10			10
7	11	10	11	76	6	11		12	67		3			
6	11	10		65	6	11		12	67					3
7	10½	10½	10½	73½	6	7	13½	13½	94½	2	1			3
7	10½	10½	5	68	6	10½		10½	63				4	4
7	10	10	11	71	6	10		11	61		4			4
7	10	10	10	70	7	14	14	14	98		54	95		149
7	10	10	10	70	7	13	13	13	91		17			17
7	10	10	10	70	6	14		14	84					
7	10	10	10	70	7	14	14	14	98		6			6
6	10	10		60	7	14		14	98					
6	10	10	10	70	6	14		14	84		6			6
6	10	10		60	6	14		14	84					

TABLE E (5).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BLOOMING MILLS—Continued.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY—Continued.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.				
Day turns.					Night turns.				East-ern.	Pitts-burgh.	Great Lakes and Middle West.	South-ern.	Total.
Turns per week.	Hours.				Turns per week.	Hours.							
	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.		Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.				
7	10	10	10	70	6	10	10	60				2	2
7	7	10	10	7	6	14	14	84	6				6
7	7	10	10	5	6	10	10	60	5				5
7	7	10	10	3	6	10	10	60				4	4
7	7	8	8	12	6	8	8	48					6
7	8	8	8	56	6	8	8	48			6		6
7	8	8	8	56	7	8	8	56			2		2
7	8	8	8	56	7	8	8	56			6	15	21
7	8	8	8	56	7	8	8	56					22
7	8	8	8	56	6	8	8	48			22		22
7	8	8	8	56	7	8	7	55					3
7	8	8	8	56	6	8	8	48		3			3
7	8	8	8	56	6	8	10	50				2	2
7	8	8	8	56	6	8	8	48					2
7	8	8	8	56	6	8	8	48				14	14
7	8	8	8	56	6	8	8	48					14
7	8	8	8	56	6	8	8	48				24	24
7	8	8	8	56	6	8	8	48					24
7	8	8	8	56	6	8	8	48					6
7	8	8	8	56	6	8	8	48		6			6
6	12	12	12	72	6	12	12	72			85	83	168
6	12	12	12	72	6	12	12	72			22		22
6	12	12	12	72	6	12	12	72			15		15
6	12	12	12	72	7	12	12	84				56	56
6	12	12	12	72	6	12	12	72				31	70
6	12	12	12	72	6	12	12	72				181	181
6	12	12	12	72	6	12	12	72					151
6	12	9		69	5	12		60	60	85		2	151
6	11½	10		67½	6	11½	12	69½	6	5			6
6	11	11	11	66	7	13	13	91			19		19
6	11	11	11	66	6	13	13	78		7			7
6	11	12		67	6	13	13	78		2			2
6	11	11		66	7	13	13	91		4	27	1	32
6	11	11		66	6	13	13	78		3			3
6	11	11		66	6	13	12	77		12			12
6	11	11		66	6	13	16	81		4			4
6	11	11		66	6	13	15	80		17			17
6	11	11		66	6	13	13	78		79		5	84
6	11	11		66	6	13	12	77	19				19
6	11	11		66	6	11	12	67		5			5
6	11	10		65	7	11	10	77		8			8
6	11	10		65	6	11	12	68		26			26
6	11	10		65	6	13	13	78		2			2
6	11	10		65	6	12	12	72		4			4
6	11	10		65	6	11	12	67		34			34
6	10½	10½	10½	63	7	13½	13½	94½		8			8
6	10½	10½		63	6	13½	13½	81			2		2
6	10	10		60	7	14	14	98			5		5
6	10	10	10	60	6	10	12	62					2
6	10	10		60	7	14	14	98		28	88		116
6	10	10		60	7	10	14	74		10			10
6	10	10		60	7	10	10	70		6			6
6	10	10		60	7	10	10	70		47			47
6	10	10		60	7	10	10	70				9	9
6	10	10		60	6	14	14	84					53
6	10	10		60	6	10	12	62					4
6	10	7½		57½	5	14		70	4				4
6	10	6½		55½	6	10		62	4				4
6	10	5½		55½	6	10		62	4				4
6	10	5½		55½	5	12		60	1				1

TABLE E (5).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BLOOMING MILLS—Concluded.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY—Concluded.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.								
Day turns.				Night turns.				East-ern.						Pitts-burgh.	Great Lakes and Middle West.	South-ern.	Total.
Turns per week.	Hours.			Turns per week.	Hours.												
	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.		Per week.	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.								
6	8	9		49	7	8	14	7	61	6			6				
					7	8	14	8	62								
6	8	8	8	48	7	8	8	6	54	6		6	6				
					7	8	8	8	56								
6	8	8		48	7	8	8	8	56	24		24	24				
					7	8	8	8	56								
6	8	8		48	6	8	8		48	6		6	6				
					7	8	8		55								
6	8	8		48	6	8	8	7	48	60			60				
					6	8	8	8	48								

SUMMARY.

Item.	Eastern district.	Pitts-burgh district.	Great Lakes and Middle West district.	South-ern district.	Total.	Per cent of employees who worked but one combination of days and hours.
Total blooming-mill employees.....	598	1,566	1,520	448	4,132	.....
Employees who worked—						
One combination of days and hours only.....	558	1,361	1,310	405	3,634	100
7-day week, or a straight or average day of 12 or more hours, all or part of the time.....	384	867	1,046	290	2,587	71
7-day week all of the time.....	81	214	311	51	657	13
7-day week part of the time.....	142	291	300	38	771	21
Straight or average day of 12 or more hours all of the time.....	206	541	894	251	1,982	55
Straight or average day of 12 or more hours part of the time.....	72	167	7	5	251	7
7-day week and straight or average day of 12 or more hours all of the time.....	69	154	264	33	520	14

Of the total number of blooming-mill employees reported, 3,634 worked but one combination of customary days and hours. Of these 3,634 employees, 2,587, or 71 per cent, regularly worked 7 days per week or a straight or average day of 12 or more hours all or part of the time, 346 working days only, 21 working nights only, and 2,220 alternating between day and night work. Fifty-five per cent (1,982) worked a straight or average day of 12 or more hours all of the time.

PLATE MILLS.

The 1922 survey includes 12 representative plate mills, which employed 3,545 men in all occupations. Of the 12 plants reported 7 operated sheared-plate mills in which the edges of the plates are not rolled and must be sheared off, 2 operated universal mills in which the edges of the plates are rolled and therefore only the ends need be cut, and 3 operated both sheared-plate and universal mills. Of the 3,545 employees reported 1,655 are found in the principal productive occupations for which separate figures are given. Data were first obtained for this department in 1910 and comparative figures are presented for the period 1910 to 1922.¹

The average earnings per hour for the principal productive occupations combined in 1922 were 30 per cent less than in 1920, 20 per cent less than in 1919, and 84 per cent greater than in 1914. Average full-time hours per week have declined 4 per cent since 1920 and are now at the lowest point of any year for which data are presented. Average full-time weekly earnings followed very closely the course of hourly earnings and decreased 34 per cent in 1922 as compared with 1920 and 26 per cent as compared with 1919. When all employees in all occupations are considered average hourly earnings decreased from 67.1 in 1920 to 47.6 in 1922.

The most significant facts concerning average earnings and average hours in each of the principal productive occupations of plate mills are shown in Table A (6).

The customary working time of employees shows a reduction in 15 of the 16 selected occupations in 1922 as compared with any other year for which data are presented. The average full-time hours of heaters' helpers were at the same level in 1922 as in 1911, although in all other years they were greater than the average for these two years. The rolling crew in universal mills, the shear crew, and laborers were most affected by the decrease from the working hours of 1920, the heating crew and rolling crew in sheared-plate mills showing very little change.

Earnings show reductions in all selected occupations when 1922 is compared with 1920 and 1919, but the average hourly earnings in 1922 are greater than those for any other year for which data are presented. The reductions from the 1920 figures range from 11.7 cents for heaters' helpers to 43.2 cents per hour for rollers, sheared-plate mills. The earnings of the rolling crew for universal mills were not affected by the reductions to such a large extent as were the earnings of the sheared-plate rolling crew. Rollers, sheared-plate mills, in 1920 received an average of \$1.558 per hour as compared with \$1.372 for rollers, universal mills, while in 1922 rollers, sheared-plate mills, were reduced to \$1.126 per hour as compared with \$1.187 for rollers, universal mills.

Full-time weekly earnings were reduced approximately the same percentage as hourly earnings, since changes in full-time hours were very slight.

¹ No data were collected for 1916, 1918, and 1921.

In the distribution of employees according to their full-time hours per week, 25 per cent or more of the employees in each selected occupation in 1922 worked 60 hours per week or less, except heaters and heaters' helpers. Five per cent of the heaters are shown in the group "48 and under" and 13 per cent of the heaters' helpers reported are shown in the two groups "48 and under 60" and "60" hours per week. In former years only a very small percentage of those in selected occupations were reported 60 hours or under.

Index numbers for full-time hours per week, earnings per hour, and full-time weekly earnings are also contained in Table A (6). These are simply percentages computed from the averages presented in the table, using the average for 1913 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 4.

TABLE A (6).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—PLATE MILLS.¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—				
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84
Charging-crane and charging-machine operators:													
1910.....	9	41	71.6	\$0.303	\$21.85	101	89	91			34	56	10
1911.....	9	39	69.4	.283	19.70	98	83	82	3	5	33	56	3
1912.....	10	42	69.6	.315	21.98	98	93	91		5	33	33	29
1913.....	10	46	70.7	.339	24.07	100	100	100			35	39	26
1914.....	12	52	70.2	.306	21.69	99	90	90			42	31	27
1915.....	12	54	70.3	.329	23.39	99	97	97			41	30	30
1917.....	7	30	70.4	.480	33.85	100	142	141			20	80	
1919.....	11	71	71.5	.799	57.13	101	236	237			18	76	6
1920.....	10	63	70.0	.798	56.18	99	235	233		6	38	19	37
1922.....	12	72	66.9	.563	37.88	95	166	157	19	17	32	3	29
Heaters:													
1910.....	11	56	71.0	.508	36.35	99	90	90			39	54	7
1911.....	11	55	69.1	.468	32.46	96	83	80	2	4	38	55	2
1912.....	11	55	69.9	.513	36.02	97	91	89			4	36	33
1913.....	11	54	71.7	.562	40.59	100	100	100			39	26	35
1914.....	13	64	70.5	.529	37.63	98	94	93			48	23	22
1915.....	13	61	70.6	.557	39.73	98	99	98			49	21	23
1917.....	7	30	70.4	.771	54.35	98	137	134			20	80	
1919.....	11	66	70.7	1.202	84.98	99	214	209			27	70	3
1920.....	11	84	68.5	1.189	81.55	96	212	201	4		60	26	11
1922.....	12	75	67.6	.852	57.03	94	152	141	5		55	15	25
Heaters' helpers:													
1910.....	10	111	69.5	.243	16.98	101	96	97			67	28	5
1911.....	10	108	67.3	.227	15.31	98	90	87		4	66	30	1
1912.....	10	113	68.7	.243	16.74	100	96	96		3	61	25	8
1913.....	10	107	68.7	.252	17.50	100	100	100		3	64	23	12
1914.....	12	112	67.7	.247	16.68	99	98	95			76	9	15
1915.....	12	109	67.6	.264	18.04	98	105	103			76	8	16
1917.....	6	36	67.4	.469	31.67	98	186	181			56	44	
1919.....	10	129	71.1	.601	42.73	103	238	244			23	74	3
1920.....	10	140	68.9	.620	42.74	100	246	244		1	73	17	9
1922.....	11	132	67.3	.503	34.36	98	200	196	7	6	52	30	5

¹ This table was published in the Monthly Labor Review for June, 1923.

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TABLE A (6).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—PLATE MILLS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60 and under 72.	72 and under 84.	84	
Roll engineers:														
1910	11	36	71.5	\$0.300	\$21.45	98	97	95			28	61	11	
1911	11	35	70.8	.290	20.55	97	94	91			34	37	17	6
1912	11	37	72.5	.287	20.93	100	93	92		5	32	27	22	14
1913	11	36	72.8	.309	22.63	100	100	100			33	31	22	14
1914	13	38	70.2	.307	21.55	96	99	95			45	34	16	5
1915	13	39	69.7	.309	21.58	96	100	95			51	28	15	5
1917	7	20	70.9	.444	31.63	97	144	140			30	60		10
1919	11	43	72.7	.744	54.09	100	241	239			19	67		14
1920	11	39	71.6	.775	55.98	98	250	247			31	33	23	13
1922	12	46	69.6	.538	37.74	96	174	167		26	26	13		17
Rollers, sheared-plate mills:														
1910	9	28	68.4	.712	48.18	100	99	98			71	29		
1911	9	28	68.1	.607	41.46	99	85	84		4	54	43		
1912	9	27	68.7	.711	48.93	100	99	99			48	52		
1913	9	26	68.5	.718	49.21	100	100	100			50	50		
1914	11	28	68.0	.703	47.94	99	98	97			57	43		
1915	11	28	67.9	.734	49.89	99	102	101			57	43		
1917	7	18	69.4	1.011	70.32	101	141	143			33	67		
1919	9	30	70.8	1.530	108.32	103	213	220			23	77		
1920	10	35	68.1	1.558	106.60	99	217	217			51	34		9
1922	10	33	66.5	1.126	74.34	97	157	151		21	6	39	15	18
Screw men, sheared-plate mills:														
1910	9	28	68.6	.421	28.75	99	87	86			64	36		
1911	9	28	68.6	.393	26.95	99	82	81		4	46	50		
1912	9	29	69.0	.435	30.00	100	90	90		3	41	55		
1913	9	29	69.0	.432	33.36	100	100	100			45	55		
1914	10	28	68.7	.434	30.08	100	90	90			50	50		
1915	10	26	68.3	.474	32.61	99	98	98			54	46		
1917	7	22	69.9	.702	49.15	101	146	147			27	73		
1919	9	32	71.3	1.117	79.64	103	232	239			16	84		
1920	9	39	68.4	1.115	76.23	99	231	229		5	51	44		
1922	8	29	66.2	.863	56.42	96	179	169		28	31	21		21
Table operators, sheared-plate mills:														
1910	9	26	68.4	.318	21.64	100	88	87			69	31		
1911	9	28	68.1	.300	20.44	100	83	82			57	43		
1912	9	30	68.3	.334	22.85	100	92	92			53	47		
1913	9	31	68.2	.363	24.87	100	100	100			55	45		
1914	11	31	67.6	.317	21.73	99	87	87			61	39		
1915	11	32	67.5	.332	22.63	99	91	91			63	38		
1917	6	20	68.5	.510	35.02	100	140	141			40	60		
1919	9	45	70.6	.825	58.25	104	227	234			29	71		
1920	10	42	67.6	.870	58.80	99	240	236		5	55	40		
1922	10	36	65.6	.635	42.25	96	175	170		22	8	31		28
Hook men, sheared-plate mills:														
1910	9	73	68.3	.262	17.88	100	84	83			68	32		
1911	9	72	68.1	.246	16.81	100	79	78			58	42		
1912	9	72	68.5	.276	18.90	100	88	88			53	47		
1913	9	76	68.4	.313	21.55	100	100	100			57	43		
1914	11	74	68.2	.294	20.27	100	94	94			58	42		
1915	11	76	68.0	.314	21.57	99	100	100			58	42		
1917	6	49	69.6	.476	33.25	102	152	154			29	71		
1919	9	89	71.0	.780	55.38	104	249	257			22	78		
1920	10	100	67.6	.813	55.02	99	260	255		8	55	37		
1922	10	80	65.8	.585	38.29	96	187	177		20	9	35		6

TABLE A (6).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—PLATE MILLS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—							
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84	
Roll hands, other, sheared-plate mills:																
1910.....	6	14	68.0	\$0.263	\$17.71	98	99	97				71	29			
1911.....	6	14	68.9	.242	16.64	100	91	91				43	57			
1912.....	6	16	69.3	.269	18.54	100	102	101				38	63			
1913.....	7	20	69.1	.265	18.28	100	100	100				50	50			
1914.....	9	24	67.4	.257	17.42	98	97	95				67	33			
1915.....	9	24	67.4	.268	18.12	98	101	99				58	42			
1917.....	5	16	69.1	.401	27.74	100	151	152				37	63			
1919.....	8	28	71.0	.676	48.00	103	255	263				21	79			
1920.....	8	33	68.3	.668	45.76	99	252	250			6	64	30			
1922.....	10	56	65.5	.480	31.70	95	181	173			16	9	43	32		
Rollers, universal mills:																
1910.....	4	8	69.5	.636	44.22	100	95	92				50	50			
1911.....	4	7	68.4	.584	40.31	98	87	84			14	29	57			
1912.....	4	6	67.8	.581	39.78	97	86	83			17	33	50			
1913.....	4	6	69.8	.672	47.81	100	100	100				33	67			
1914.....	5	8	68.8	.590	41.08	99	88	86				50	50			
1915.....	5	8	68.8	.676	47.10	99	101	99				50	50			
1919.....	5	9	70.7	1.371	96.93	101	204	203				22	78			
1920.....	4	9	70.0	1.372	98.32	100	204	206				56	22	22		
1922.....	5	11	64.8	1.187	75.28	93	177	157			18	18	36	27		
Screw men, main rolls, universal mills:																
1910.....	4	8	69.5	.470	32.75	99	102	100				50	50			
1911.....	4	7	66.6	.421	28.23	95	92	86			29	29	43			
1912.....	4	7	66.6	.407	27.38	95	88	84			29	29	43			
1913.....	4	7	70.1	.460	32.66	100	100	100				29	71			
1914.....	5	9	69.2	.386	26.96	99	84	83				44	56			
1915.....	5	9	69.2	.451	31.51	99	98	96				44	56			
1919.....	5	11	70.9	1.015	71.96	101	221	220				18	82			
1920.....	4	9	69.4	1.174	83.35	99	255	255				22	78			
1922.....	5	11	64.0	.813	50.80	91	177	156			18	27	36	18		
Screw men, side rolls, universal mills:																
1910.....	4	10	69.2	.314	21.77	101	107	106				60	40			
1911.....	4	9	66.3	.296	19.80	97	101	96				22	44	33		
1912.....	4	9	66.3	.271	18.12	97	92	88				22	44	33		
1913.....	4	8	68.6	.294	20.56	100	100	100				50	50			
1914.....	5	10	68.1	.271	18.69	99	92	91				60	40			
1915.....	5	10	68.1	.332	22.83	99	113	111				60	40			
1919.....	5	10	70.8	.713	50.48	103	243	246				20	80			
1920.....	4	13	69.6	.738	57.38	101	251	279				46	54			
1922.....	5	12	65.3	.606	39.04	95	206	190			17	17	50	17		
Roll hands, other, universal mills:																
1910.....	2	6	70.0	.299	20.93	100	115	113				33	67			
1911.....	2	4	72.0	.299	21.55	102	115	116					100			
1912.....	3	5	69.6	.277	19.41	99	106	105			20		80			
1913.....	3	8	70.3	.261	18.50	100	100	100				25	75			
1914.....	5	10	69.5	.266	18.48	99	102	100				40	60			
1915.....	5	9	69.2	.310	21.46	98	119	116				44	56			
1919.....	5	19	71.4	.605	43.20	102	232	234				11	89			
1920.....	4	10	69.5	.687	48.41	99	263	262				40	60			
1922.....	5	17	65.5	.502	32.18	93	192	174			12	24	24	41		
Shearers:																
1910.....	11	70	67.5	.378	25.69	98	91	89				3	64	33		
1911.....	11	66	68.0	.356	24.45	99	86	85				6	42	52		
1912.....	11	69	68.3	.384	26.48	99	93	92				7	38	55		
1913.....	11	69	68.8	.415	28.81	100	100	100				1	39	59		
1914.....	13	73	68.4	.406	27.97	99	98	97				1	45	53		
1915.....	13	73	68.2	.436	29.68	99	105	103				1	3	44	52	
1917.....	7	42	69.7	.638	44.74	101	154	155				24	10	67		
1919.....	11	97	70.8	.977	69.17	103	235	240				1	21	78		
1920.....	11	92	68.0	1.016	69.44	99	245	241				1	8	45	47	
1922.....	12	106	64.1	.666	43.10	93	160	150			27	10	29	33		

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TABLE A (6).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—PLATE MILLS—Concluded.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Shearmen's helpers:														
1910.....	11	460	68.4	\$0.215	\$14.71	100	86	85	.....	2	57	42	.....	.....
1911.....	11	429	68.4	.206	14.20	100	82	82	.....	4	41	56	.....	.....
1912.....	11	432	68.6	.223	15.42	100	89	89	.....	3	39	58	.....	.....
1913.....	11	425	68.7	.250	17.25	100	100	100	.....	(2)	42	57	.....	.....
1914.....	13	408	68.2	.243	16.71	99	97	97	.....	(2)	48	52	.....	.....
1915.....	13	406	68.4	.260	17.89	100	104	104	.....	(2)	1	46	50	2
1917.....	7	248	69.0	.400	27.60	100	160	160	.....	20	10	70	.....	.....
1919.....	11	630	71.1	.630	44.79	103	252	260	.....	.....	20	80	(2)	.....
1920.....	11	623	68.2	.665	45.56	99	266	264	.....	(2)	3	44	52	.....
1922.....	12	678	64.9	.455	29.73	94	182	172	.....	23	7	25	45	.....
Laborers:														
1910.....	11	355	66.8	.159	10.68	96	88	85	.....	25	58	10	1	6
1911.....	11	274	66.2	.158	10.51	96	87	83	.....	26	52	18	3	1
1912.....	11	339	68.9	.161	11.17	99	89	89	.....	22	36	31	6	3
1913.....	11	349	69.3	.181	12.62	100	100	100	.....	22	36	32	3	3
1914.....	12	216	67.6	.174	11.85	98	96	94	.....	6	21	30	27	3
1915.....	12	208	66.7	.174	11.66	96	96	92	.....	17	19	29	19	3
1917.....	5	197	70.3	.294	20.67	101	162	164	.....	3	10	.....	87	.....
1919.....	10	587	69.5	.450	31.28	100	249	248	.....	12	2	21	62	1
1920.....	8	348	67.9	.498	34.66	98	275	275	.....	8	12	4	66	10
1922.....	10	493	64.0	.336	21.65	92	186	172	.....	20	43	4	29	3

² Less than 1 per cent.

³ Including 3 per cent whose full-time hours per week were 91.

The number of employees reported in 1922 includes some duplications, or repeated employees, as stated in the general explanation of Table B (p. 15). Of the 1,838 employees reported in selected occupations for all districts combined there were 183 duplications, leaving 1,655 actually engaged, and the total of 3,766 employees shown for all occupations represents 3,545 individuals.

The gross number of employees, together with the net number of actual employees in selected occupations and in all occupations in each district and all districts combined, are shown in Table 13.

TABLE 13.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND ALL OCCUPATIONS, 1922, BY DISTRICTS—PLATE MILLS.

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number
Eastern.....	631	76	555	1,218	86	1,132
Pittsburgh.....	706	89	619	1,498	107	1,391
Great Lakes and Middle West.....	499	18	481	1,050	28	1,022
Total.....	1,838	183	1,655	3,766	221	3,545

The customary working time per week of employees in the plate-mills department for the years 1910 to 1922 has been classified, and the number and per cent of employees coming under each classification are shown in Table B (6).

Nearly all of the employees worked 6 days, or 5 days and 6 days alternately. The largest number in all occupations in 1922, 2,257, or 60 per cent, is shown under "6 days." The heading "5 days and 6 days alternately" indicates that the plants were running 6 days and 5 nights each week, being shut down approximately 36 hours each week, and that the employees reported under this heading worked six turns one week and 5 turns the next.

In selected occupations in all districts combined 28 per cent worked 5 days and 6 days alternately in 1922 as compared with 20 per cent in 1920. The percentage of six-day workers decreased considerably in 1922 when compared with either 1919 or 1920. In 1922 the percentage was 66.

The changes in the percentages of employees in all occupations who worked 6 days, and 6 days and 5 days alternately were almost the same as in selected occupations.

The greatest change in 6-day workers was reported in the Pittsburgh district. Employees in selected occupations in that district decreased from 89 per cent in 1920 to 60 per cent in 1922. Employees who worked 5 days and 6 days alternately increased from 9 per cent in 1920 to 33 per cent in 1922.

TABLE B (6).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1910 TO 1922, BY YEARS—PLATE MILLS.

[For explanation of this table see p. 15.]

District.	Year.	Number of plants.	Number of employees. ¹	Number of employees whose customary working time per week was—					Per cent of employees whose customary working time per week was—						
				5 days	5 days and 6 days alternately.	6 days	6 days and 7 days alternately.	6 days, 7 days, and 7 days in rotation.	7 days	5 days	5 days and 6 days alternately.	6 days	6 days and 7 days alternately.	6 days, 7 days, and 7 days in rotation.	7 days
EASTERN.															
Selected occupations.	1910	2	343		84	253			6		25	74		2	
	1911	2	343		268	75				78	22				
	1912	2	333		242	86			5	73	26			2	
	1913	2	339		287	45			7	85	13			2	
	1914	3	378		295	80			3	78	21			1	
	1915	3	390	1	337	49			3	(²)	86	13		1	
	1917	1	87		82	5				94	6				
	1919	2	498		217	279			2	44	56			(²)	
	1920	3	455		109	346				24	76				
	1922	4	631		185	395	24		27	29	63	4		4	
All occupations.	1914	3	707		475	184		2	46	67	26		(²)	7	
	1915	3	699	3	516	131		2	47	(²)	74	19		7	
	1920	3	937		278	501			68	30	63			7	
	1922	4	1,218		344	680	44		150	28	56	4		12	

¹ The figures in this column for the years 1910 to 1917 represent the number of jobs, and for the years 1919, 1920, and 1922 the actual number of men employed.

² Less than 1 per cent.

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TABLE B (6).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1910 TO 1922, BY YEARS—PLATE MILLS—Concluded.

District.	Year.	Number of plants.	Number of employees.	Number of employees whose customary working time per week was—				Per cent of employees whose customary working time per week was—							
				5 days	5 days and 6 days alternately.	6 days	6 days and 7 days alternately.	6 days, 7 days, and 7 days in rotation.	7 days	5 days	5 days and 6 days alternately.	6 days	6 days and 7 days alternately.	6 days, 7 days, and 7 days in rotation.	7 days
PITTSBURGH.															
Selected occupations.	1910	5	709			665	6	38			94	1		5	
	1911	5	621	8	62	492	2	57	1	10	79	(²)		9	
	1912	5	696		78	526	6	86		11	76	1		12	
	1913	5	668		78	490	22	78		12	73	3		12	
	1914	6	585		124	379	56	26		21	65	10		4	
	1915	6	576		124	371	49	32		22	64	9		6	
	1917	3	367			365		2			99			1	
	1919	5	953			919		34			96			4	
	1920	5	657		61	586	7	3		9	89	1		4	
1922	4	708		231	428	23	26		33	60	3		(²) 4		
All occupations.	1914	6	1,139		172	817	71	79		15	72	7		7	
	1915	6	1,131		174	907	59	81		16	72	5		7	
	1920	5	1,572		128	1,397	18	29		8	89	1		2	
	1922	4	1,498		576	778	33	111		38	52	2		7	
G. L. & M. W.															
Selected occupations.	1910	4	278		90	172		16		32	62			6	
	1911	4	299	22	91	121		5	9	38	51			2	
	1912	4	219	19	91	97	8	4	9	42	44	4		2	
	1913	4	249		95	142	2	6	4	38	57	1	2	2	
	1914	4	222		93	125		3	1	42	56		1	1	
	1915	4	206		81	121		3	1	39	59		1	1	
	1917	3	273		86	187				32	68				
	1919	4	445			419	20	6			94	4		1	
	1920	3	389		134	253		2		34	65			1	
	1922	4	499		96	382	3	18		19	77	1		4	
All occupations.	1914	4	455		130	306	10	3	6	29	67	2	1	1	
	1915	4	425		106	294	18	3	4	25	69	4	1	1	
	1920	3	721		180	537		4		25	74			1	
	1922	4	1,050	1	148	799	18	84	(²)	14	76	2		8	
TOTAL.															
Selected occupations.	1910	11	1,330		174	1,090	6	60		13	82	1		5	
	1911	11	1,203	30	421	688	2	62	3	35	57	(²)		6	
	1912	11	1,248	19	411	709	14	95	2	33	57	1		8	
	1913	11	1,256		460	677	24	6	89	37	54	2	1	7	
	1914	13	1,185		512	584	56	3	30	43	49	5		3	
	1915	13	1,172	1	542	541	49	3	36	(²)	46	4	4	(²) 3	
	1917	7	727		168	557		2		23	77			(²) 2	
	1919	11	1,896		217	1,617	20	42		11	85	1			
	1920	11	1,501		304	1,185	7	5	20	79	(²)			(²) 4	
	1922	12	1,838		512	1,205	50	71		28	66	3			
	All occupations.	1914	13	2,301		777	1,307	81	5	131	34	57	3	(²)	3
		1915	13	2,245	3	796	1,232	77	5	132	(²)	35	55	3	9
1920		11	3,230		596	2,525	18	101		18	78	1		6	
1922		12	3,766	1	1,068	2,257	95	345	(²)	28	60	3		9	

² Less than 1 per cent.

Table C (6) presents the most significant facts relative to customary and actual working time, actual earnings per pay period, and earnings per hour of employees in the plate-mill department for the year 1922, by occupations and districts. In addition, for each occupation are shown the number of positions and the number of employees actually working during the pay period and also the time and earnings of the same employees during the same period at occupations other than the occupation specified.

Rollers in sheared-plate mills are reported for 10 plants and rollers in universal mills for 5 plants. Apparently data were obtained from 15 plants, instead of 12 as shown in Table 7. This seeming inconsistency is due to the fact that 3 of the plants reported have both sheared-plate and universal plate mills.

Referring to the occupation of charging-crane and charging-machine operators by way of illustration: The 12 plants reported had 58 positions to be filled under normal working conditions. However, 72 men occupied these positions during the pay period scheduled. The average customary full time of these men was 6 turns per week, 11.2 hours per turn and 66.9 hours per week. In the distribution of the customary working time of the 72 actual employees, 23, or 32 per cent, worked over 60 and under 72 hours per week, and 21, or 29 per cent, worked over 72 hours per week.

The average hourly earnings for charging-crane and charging-machine operators in all districts combined were 56.3 cents, and the full-time weekly earnings ranged from \$31.39 in the Eastern district to \$41.57 in the Great Lakes and Middle West district.

Owing to the fact that a large number of the employees worked in more than one occupation during the pay period and in order to give the complete hours and earnings for them, separate figures including all occupations at which such employees worked are given for each occupation. While 72 men working as charging-crane and charging-machine operators averaged 99.5 hours per pay period, they also averaged 16.3 hours at other work, making a total of 115.8 hours per pay period in specified (charging-crane and charging-machine operators) and other occupations." During the 99.5 hours they worked as charging-crane and charging-machine operators they earned an average of \$56.01, or 56.3 cents per hour. When the work of these men in all occupations is considered they earned \$62.87—that is, \$6.86 was earned in some occupation other than that of charging-crane and charging-machine operators.

The average earnings per hour in this department ranged from 33.6 cents for laborers to \$1.187 for rollers, universal mills, and the average actual hours worked per day period ranged from 45.1 for laborers to 107.9 for roll engineers.

Of the 16 selected occupations reported in this table only four had any employees regularly working as much as 84 hours per week, and the percentage of employees in these occupations in only one case was as much as 10 per cent. The highest average customary hours per week of all employees was 69.6 for roll engineers.

TABLE C (6).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—PLATE MILLS.

[For explanation of this table see p. 16.]

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.								Average full-time earnings per week.	Scheduled pay period (15 days).						
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—							Specified occupation.			Specified and other occupations.			
			Turns per week.	Hours per turn.	Hours per week.		48 and under	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.		84	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked	Average earnings.	Average earnings per hour.
Charging-crane and charging-machine operators:																				
Eastern.....	4	21	5.9	11.2	65.4	25		7	18				\$31.39	102.5	\$49.18	\$0.480	114.5	\$53.13	\$0.464	
Pittsburgh.....	4	22	6.1	10.7	65.7	25		14	3				41.13	103.6	64.83	.626	114.0	69.16	.607	
G. L. and M. W.....	4	15	5.9	11.9	70.7	22		5	2	2	13		41.57	91.4	53.77	.588	119.3	66.78	.560	
Total.....	12	58	6.0	11.2	66.9	72		14	12	23	2	21	37.88	99.5	56.01	.563	115.8	62.87	.543	
Heaters:																				
Eastern.....	4	28	5.8	11.8	68.0	34			25	9			48.62	97.2	69.46	.715	108.5	74.47	.687	
Pittsburgh.....	4	19	5.9	11.3	66.4	22			14	2	6		69.19	110.6	115.23	1.042	124.5	123.19	.989	
G. L. and M. W.....	4	15	6.1	11.3	68.4	19	4			2	13		58.00	102.7	87.11	.848	131.1	104.40	.796	
Total.....	12	62	5.9	11.5	67.6	75	4		41	11	19		57.03	102.5	87.36	.852	118.9	96.34	.810	
Heaters' helpers:																				
Eastern.....	4	48	5.9	11.5	68.2	67		2	49		10	6	30.28	89.4	39.68	.444	114.3	51.29	.440	
Pittsburgh.....	4	20	6.0	11.1	66.7	36		9	6		21		34.22	72.7	37.26	.513	100.5	53.91	.536	
G. L. and M. W.....	3	16	6.0	10.9	65.5	29			20		9		43.95	67.8	45.49	.671	90.3	54.33	.602	
Total.....	11	84	6.0	11.3	67.3	132		9	8	69	40	6	34.36	80.1	40.30	.503	105.3	52.67	.500	

Roll engineers:																				
Eastern	4	15	6.0	11.6	69.4	16			3	7		6		33.45	126.8	61.11	.452	139.5	65.93	.473
Pittsburgh	4	11	6.4	10.9	69.8	17			7	3		2	5	39.30	83.3	46.85	.563	105.0	55.61	.530
G. L. and M. W.	4	10	5.9	11.8	69.6	13			2	2	6	3		40.99	116.9	68.89	.589	140.0	78.42	.560
Total	12	36	6.1	11.5	69.6	46			12	12	6	11	5	37.74	107.9	58.04	.538	126.9	65.65	.517
Rollers, sheared-plate mills:																				
Eastern	4	12	5.8	11.5	66.1	15			2	13				61.61	98.9	92.13	.932	120.4	103.01	.836
Pittsburgh	4	9	5.8	11.4	66.5	11			5			6		79.60	98.8	118.27	1.197	118.6	136.66	1.152
G. L. and M. W.	2	6	5.8	11.5	67.2	7			2			5		93.34	115.1	159.98	1.389	134.0	178.40	1.331
Total	10	27	5.8	11.5	66.5	33			7	2	13	5	6	74.34	102.3	115.22	1.126	122.7	130.22	1.061
Screw men, sheared-plate mills:																				
Eastern	2	6	5.8	11.6	67.5	9				9				41.72	88.3	54.60	.618	136.1	78.80	.579
Pittsburgh	4	9	5.8	11.2	65.7	11			5			6		59.26	97.1	87.66	.902	112.7	101.12	.897
G. L. and M. W.	2	7	5.8	11.3	65.8	9						6		67.64	102.3	105.15	1.028	126.2	123.33	.977
Total	8	22	5.8	11.4	66.2	29			8		9	6	6	56.42	96.0	82.83	.863	124.1	101.09	.814
Table operators, sheared-plate mills:																				
Eastern	4	12	5.8	11.2	64.5	13			3	10				32.31	109.0	54.61	.501	115.9	58.83	.503
Pittsburgh	4	9	5.8	11.3	65.5	10			5	1		4		45.52	107.2	74.47	.695	115.5	82.02	.710
G. L. and M. W.	2	9	5.8	11.5	67.2	13			3			10		49.66	92.7	68.43	.739	134.3	98.78	.735
Total	10	30	5.8	11.3	65.6	36			8	3	11	10	4	42.25	102.6	65.12	.635	122.4	70.52	.650
Hook men, sheared-plate mills:																				
Eastern	4	27	5.7	11.3	64.8	33			7	26				31.56	96.9	47.19	.487	121.7	57.69	.474
Pittsburgh	4	18	5.8	11.2	65.0	23			10	2	6	5		39.07	93.1	55.92	.601	111.8	64.76	.579
G. L. and M. W.	2	20	5.9	11.5	67.7	24			6			18		46.51	115.4	79.31	.687	131.1	88.74	.677
Total	10	65	5.8	11.4	65.8	80			16	7	28	24	5	38.20	101.4	59.33	.585	121.7	69.04	.567
Roll hands, other, sheared-plate mills:																				
Eastern	4	19	5.7	11.6	65.9	27			5	22				28.60	75.4	32.69	.434	106.2	45.78	.431
Pittsburgh	4	10	5.8	11.2	65.1	23			6	2	15			33.01	51.0	25.87	.507	65.7	34.33	.523
G. L. and M. W.	2	4	5.8	11.2	64.8	6			3		3			40.63	70.0	43.89	.627	109.8	67.52	.615
Total	10	33	5.7	11.4	65.5	56			9	5	24	18		31.70	64.8	31.09	.480	89.93	43.41	.483
Rollers, universal mills:																				
Eastern	2	3	6.2	10.9	67.1	4				4				57.64	93.5	80.33	.859	125.3	92.99	.742
Pittsburgh	1	2	5.5	10.3	56.5	2			2					98.88	113.0	197.80	1.750	113.0	197.80	1.750
G. L. and M. W.	2	3	6.0	11.3	68.0	5				2		3		79.90	78.4	92.14	1.175	121.6	125.28	1.030
Total	5	8	5.9	10.9	64.8	11			2	2	4	3		75.26	90.2	107.06	1.187	103.2	126.72	1.228

TABLE C (6).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—PLATE MILLS—Concluded.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.								Average full-time earnings per week.	Scheduled pay period (15 days).							
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—							Specified occupation.			Specified and other occupations.				
																				Turns per week.	Hours per turn.	Hours per week.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84
			Average hours worked.	Average earnings.	Average earnings per hour.		Average hours worked.	Average earnings.	Average earnings per hour.												
Screw men, main rolls, universal mills:																					
Eastern.....	2	3	6.2	10.9	67.1	4									\$41.74	93.3	\$57.96	\$0.622	125.0	\$70.62	\$0.565
Pittsburgh.....	1	2	5.5	10.1	55.5	2		2			4				65.60	111.0	131.15	1.182	111.0	131.15	1.182
G. L. and M. W.....	2	4	6.0	11.0	66.0	5			3			2			52.14	89.6	70.79	.790	108.8	88.66	.815
Total.....	5	9	5.9	10.8	64.0	11		2	3	4	2			50.81	94.8	77.10	.813	115.1	89.82	.780	
Screw men, side rolls, universal plate mills:																					
Eastern.....	2	5	6.3	10.8	67.7	6					6				38.25	103.3	58.38	.565	103.3	58.38	.565
Pittsburgh.....	1	2	5.5	10.1	55.5	2		2							45.90	111.0	91.85	.827	111.0	91.85	.827
G. L. and M. W.....	2	3	6.0	11.3	68.0	4			2		2				36.79	92.0	49.82	.541	109.2	63.60	.582
Total.....	5	10	6.1	10.8	65.3	12		2	2	6	2			39.04	100.8	61.10	.606	106.6	65.70	.616	
Roll hands, other, universal mills:																					
Eastern.....	2	3	6.2	10.9	67.1	4					4				35.03	93.3	48.71	.523	121.8	62.24	.511
Pittsburgh.....	1	2	5.0	10.1	55.5	2		2							34.08	111.0	68.15	.614	111.0	68.15	.614
G. L. and M. W.....	2	6	6.0	11.3	68.0	11			4		7				30.80	61.1	27.70	.453	91.7	40.26	.439
Total.....	5	11	6.0	11.0	65.5	17		2	4	4	7			32.18	74.5	37.40	.502	101.1	48.71	.482	

Shearman:																				
Eastern.....	4	29	5.8	10.9	63.2	36	.....	1	8	25	.....	1	1	34.25	94.9	51.45	.542	114.6	59.87	.522
Pittsburgh.....	4	27	5.7	10.9	62.7	37	.....	16	2	3	16	.....	.....	51.35	83.5	68.39	.819	112.6	83.00	.737
G. L. and M. W.....	4	24	5.8	11.4	66.9	33	.....	13	1	.....	19	.....	.....	43.49	99.5	64.72	.650	129.2	81.96	.634
Total.....	12	80	5.8	11.0	64.1	106	.....	30	11	28	35	1	1	43.10	92.4	61.49	.666	118.5	74.82	.632
Shearman's helpers:																				
Eastern.....	4	146	5.8	10.9	63.1	187	.....	45	142	.....	.....	.....	.....	25.43	91.1	36.70	.403	110.3	43.98	.399
Pittsburgh.....	4	172	5.8	11.1	64.1	260	.....	89	25	146	.....	.....	.....	32.37	76.1	38.42	.505	90.0	44.25	.491
G. L. and M. W.....	4	188	5.8	11.5	66.9	231	.....	69	2	160	.....	.....	.....	30.24	108.2	48.93	.452	122.0	54.55	.447
Total.....	12	506	5.8	11.1	64.9	678	.....	158	47	167	306	.....	.....	29.73	91.2	41.52	.455	106.5	47.68	.448
Laborers:																				
Eastern.....	4	66	6.0	9.9	59.7	145	.....	46	64	14	21	.....	.....	17.91	49.7	14.91	.300	95.4	31.20	.327
Pittsburgh.....	4	69	6.0	10.4	62.2	229	.....	53	153	7	2	10	4	22.21	34.4	12.28	.357	101.3	42.90	.424
G. L. and M. W.....	2	50	6.0	12.0	72.0	119	119	25.13	60.0	20.93	.349	112.2	40.34	.360
Total.....	10	185	6.0	10.7	64.0	493	99	217	21	142	10	4	21.65	45.1	15.15	.336	102.2	38.84	.350

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Table D (6) shows the number of employees and the average and classified earnings per hour for screw men, sheared-plate mills, and shearmen, in 1922, by districts and for all districts combined.

There was a wide range of earnings in the Pittsburgh district for both occupations, while the range for screw men, sheared-plate mills, in the Great Lakes and Middle West district was very slight, all employees earning between 90 cents and \$1.25. The highest average hourly earnings for screw men, sheared-plate mills, are shown in the Great Lakes and Middle West district, and those for shearmen in the Pittsburgh district. In all districts combined the average hourly earnings of screw men, sheared-plate mills, was 86.3 cents per hour and for shearmen 66.6 cents.

TABLE D (6).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS—PLATE MILLS.

[For explanation of this table see p. 17.]

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—											
			Under 30 cts.	30 and under 35 cts.	35 and under 40 cts.	40 and under 45 cts.	45 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.	70 and under 80 cts.	80 and under 90 cts.	90 cts. and under \$1.	\$1 and under \$1.25.	\$1.25 and under \$1.50.
SCREW MEN, SHEARED-PLATE MILLS.														
Eastern.....	9	\$0.617				1		2	6					
Pittsburgh.....	11	.902						1	2	3			3	2
Great Lakes and Middle West.....	9	1.028											5	4
Total.....	29	.863				1		3	8	3			5	7
SHEARMEN.														
Eastern.....	36	.542	1	2	3	5	2	10	13					
Pittsburgh.....	37	.819			1		4	6	5	4	9	2	6	
Great Lakes and Middle West.....	33	.650				1	6	4	4	13	3	2		
Total.....	106	.666	1	2	4	6	12	20	22	17	12	4	6	

Customary turns per week, hours per turn, and full-time hours per week of those employees who regularly worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours, regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (6) for the plate-mill department. As stated in the general explanation of this table (p. 17) data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (6).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—PLATE MILLS.

[This table includes only employees who worked but one combination of customary days and hours during pay period. For explanation of table see p. 17.]

DAY TURNS.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.			
Day turns.					Night turns.				East ern.	Pitts- burgh.	Great Lakes and Middle West.	Total.
Turns per week.	Hours.				Turns per week.	Hours.						
	Mon- day to Fri- day.	Satur- day.	Sun- day.	Per week.		Mon- day to Fri- day.	Satur- day.	Sun- day.					Per week.
7	12	12	18	90					1			1
7	12	12	12	84					8			8
7	11	11	18	84							1	1
7	11	11	11	77					5	1		6
7	10	10	10	70					7			7
7	8	5	5	60					2			2
7	8	8	4	52					1			1
6	12	12	12	72					15		7	22
6	12	12		72					1		15	16
6	12	6		66								3

NIGHT TURNS.

					7	13	13	13	91		1		1
					6	12	12	12	84	1			3
					6	12	12	12	72			3	3
					6	14		14	84	1			1
					5	12½			62½			1	1

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

7	12	12	12	84	7	12	12	12	84	28		58	86
7	12	12	12	84	6	12	12	12	72	17		13	30
7	12	12	12	81	5	12			60			1	2
7	12	12	10	82	7	12	12	12	84	2			1
7	12	12	6	78	5	12			60	2			2
7	11½	6	2	65½	6	12½		12½	75	2			2
7	11½	6	2	65½	6	8		12½	52½	7			7
7	11	11	11	77	7	13	13	13	91	53	34		87
7	11	11	11	77	6	13		13	78		4		4
7	11	11	11	76	6	13		13	78		7		7
7	11	11	10	76	7	13	13	13	91				4
7	11	11	10	76	6	13		13	78		4		4
7	11	11	4	70	6	13		13	78				6
7	11	10½	3	68½	6	13		12½	77½		6		2
7	11	10	6	71	6	11		11	66	8			8
7	11	9½	11½	76	6	13		12½	77½		2		2
7	10½	10½	10	73	5	13½			67½			11	11
7	10	10	10	70	7	14	14	14	98		38		38
7	10	10	10	70	7	13	13	13	91		22		22
7	10	10	10	70	7	10	10	10	70	8			8
7	10	10	10	70	6	14		14	84				4
6	10	10	10	70	7	14	14	14	98		4		4
7	10	10	6	66	6	11		11	66			2	2
7	10	10	6	66	5	11			55			10	10
6	12	12	12	72	6	12	12	12	72			55	55
6	12	12		72	6	12	12	12	72			26	26
6	12	12		72	6	12	12	12	72			440	440
6	12	12		72	6	12		12	72	26		7	33
6	12	6		66	5	12			60	101			101
6	11½	6		63½	6	12½		15	77½	18			16
6	11½	6		63½	6	12½		12½	75	5			5
6	11½	6		63½	6	12½		2	64½	3			3
6	11½	6		63½	5	12½			62½	203			203
6	11	11	11	66	6	13	13	13	78		5		5
6	11	11		66	6	13		13	78	16	153		169
6	11	11		66	5	13			65			4	4
6	11	10½		65½	6	13		12½	77½		17		17
6	11	10½		65½	6	13		12½	77½		4		4
6	11	9½		64½	6	13		12½	77½		25		25
6	10	10		60	7	14	14	14	98		2		2
6	10	10		60	6	14	14	14	84			3	3
6	10	10		60	6	14		14	84		224		224

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TABLE E (6).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—PLATE MILLS—Concluded.

SUMMARY.

Item.	East- ern Dis- trict.	Pitts- burgh Dis- trict.	Great Lakes and Middle West Dis- trict.	Total.	Per cent of employees who worked but one combina- tion of days and hours.
Total plate mill employees.....	1,132	1,391	1,022	3,545	.....
Employees who worked—					
One combination of days and hours only.....	984	1,229	940	3,153	100
7-day week or a straight or average day of 12 or more hours all or part of the time.....	539	555	657	1,751	56
7-day week all of the time.....	116	96	59	271	9
7-day week part of the time.....	36	31	37	104	3
Straight or average day of 12 or more hours all of the time.....	166	461	630	1,257	40
Straight or average day of 12 or more hours part of the time.....	342	93	15	450	14
7-day week and straight or average day of 12 or more hours all of the time.....	91	73	59	225	7

Of the total number of plate-mill employees reported, 3,153 worked but one combination of customary days and hours. Of these 3,153 employees, 1,751, or 56 per cent, regularly worked 7 days per week or a straight or average day of 12 or more hours all or part of the time, 64 working days only, 7 working nights only, and 1,680 alternating between day and night work. Of the 1,751 employees, 72 per cent (1,257) worked a straight or average day of 12 or more hours all of the time, while 13 per cent (225) employees had a 7-day week and a straight or average day of 12 or more hours all of the time.

STANDARD RAIL MILLS.

The 1922 survey includes 4 representative standard rail mills which employed 1,270 men in all occupations. Of the total number of employees reported 661 are shown in the principal productive occupations for which separate figures are given. Wages and hours of labor were first obtained for this department in 1910 and comparative figures are presented for the years 1910 to 1922.¹

Considering the principal productive occupations as a whole, the average full-time hours per week of employees in 1922 were lower than in any other year for which data are available, or 3 per cent less than in 1920, the previous low mark in customary working time in this department. Earnings have also declined but show reductions only when compared with 1919 and 1920, as the wages received in all other years are lower than in 1922. Earnings per hour were 23 per cent lower in 1922 than in 1920, but are 96 per cent higher than in 1913. Full-time weekly earnings followed very closely the course of hourly earnings, as the changes in full-time hours were very slight as compared with those in hourly earnings.

The most significant facts concerning average earnings and average hours in each of the 21 selected occupations are summarized in Table A (7). While selected occupations as a whole show a decrease in full-time hours in 1922 as compared with 1920, when the various occupations are considered separately only 12 show decreases, the other 9 reporting increases. Table lever men and table men, however, are the only occupations in which 1922 shows an increase over 1919 and all occupations show reductions when 1922 is compared with any other year.

Earnings per hour and per week show a material reduction in each occupation since 1920, and are lower in most instances in 1922 than in 1919, but the earnings in 1922 represent a large increase over all the other years presented.

For example, in 1910 table lever men received an average of 45.4 cents per hour, with possible full-time earnings of \$28.25 per week. Wages during the next few years declined slightly and in 1914 they received 32.4 cents per hour and \$20.49 per week, the low point of earnings in this occupation. In the following year, 1915, there was only a slight upward trend, but by 1919 the effect of speeding up production for war emergencies is noticed, earnings for that year averaging 82.5 cents per hour, with a corresponding increase in full-time weekly earnings to \$49.91. The movement in earnings was still upward in 1920, averaging \$1.052 per hour and \$54.77 per week. Wage reductions were made in 1921, and in 1922 earnings had declined to 58 cents per hour and \$35.86 per week. Table A (7) shows like figures for the other occupations as well.

In 1922 there was no 84-hour week work reported in any occupation, and in only one occupation, roll engineers, was there any employee shown in the group "Over 72 and under 84." All other occupations had a maximum full-time of 72 hours per week, with a large percentage in the lower groups of 60 hours per week and under.

¹ No data collected for the years 1916, 1917, 1918, and 1921.

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Index numbers for average full-time hours per week, average earnings per hour, and average full-time weekly earnings are also contained in Table A (7). These are simply percentages computed from the averages presented in the table, using the average for 1913 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 4.

TABLE A (7).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—STANDARD RAIL MILLS.¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—				
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84
Charging-machine operators:													
1910.....	3	22	72.0	\$0.234	\$16.87	100	92	92					
1911.....	3	22	72.0	.232	16.72	100	91	90				100	
1912.....	3	22	72.0	.244	17.58	100	96	95				100	
1913.....	3	22	72.0	.255	18.39	100	100	100				100	
1914.....	3	22	72.0	.280	20.17	100	110	110				100	
1915.....	3	22	72.0	.226	16.27	100	89	88				100	
1919.....	2	19	72.0	.512	36.96	100	201	200				100	
1920.....	2	13	64.4	.302	51.65	89	315	281	31		69		
1922.....	2	13	59.3	.530	31.43	82	208	171	54		46		
Reheaters:													
1910.....	4	23	72.0	.429	31.00	100	112	113				91	9
1911.....	4	23	72.0	.421	30.28	100	110	110				100	
1912.....	4	23	72.0	.410	29.50	100	107	107				100	
1913.....	3	14	72.0	.382	27.53	100	100	100				100	
1914.....	3	14	72.0	.336	24.18	100	88	88				100	
1915.....	3	12	72.0	.385	27.70	100	101	101				100	
1919.....	2	17	72.0	.843	60.70	100	221	220				100	
1920.....	2	17	47.7	1.101	52.52	86	288	191	100				
1922.....	2	7	49.2	.752	37.00	68	197	134	43	57			
Reheaters' helpers:													
1910.....	3	24	71.3	.280	19.95	99	81	80			50	50	
1911.....	3	24	72.0	.264	18.98	100	77	76				100	
1912.....	3	24	72.0	.304	21.87	100	88	88				100	
1913.....	3	23	72.0	.345	24.87	100	100	100				100	
1914.....	2	20	72.0	.354	25.49	100	103	102				100	
1915.....	2	20	72.0	.254	18.27	100	74	73				100	
1919.....	2	14	72.0	.517	37.22	100	150	150				100	
1920.....	1	18	48.0	.738	37.82	67	228	152	100				
1922.....	2	14	51.9	.614	31.87	72	178	128	71		29		
Roll engineers:													
1910.....	6	42	77.4	.310	24.30	103	96	101				48	14
1911.....	7	43	75.3	.277	21.14	101	86	88				42	42
1912.....	7	45	74.1	.304	22.44	99	94	93				58	38
1913.....	7	32	74.9	.323	24.16	100	100	100				63	25
1914.....	7	32	73.5	.317	23.33	98	98	97				68	13
1915.....	7	30	72.5	.322	23.30	97	100	97				80	20
1919.....	5	26	69.7	.821	57.22	93	254	237	12			88	
1920.....	4	22	74.7	.753	55.82	100	233	231	23			32	
1922.....	4	14	68.6	.525	36.10	92	163	149	29			64	7
Rollers:													
1910.....	5	12	62.3	.624	45.09	100	90	90				83	17
1911.....	6	14	72.2	.591	42.67	99	86	85				86	14
1912.....	6	14	72.2	.646	46.65	99	94	93				86	14
1913.....	6	14	72.6	.690	50.18	100	100	100				79	21
1914.....	6	14	71.1	.649	46.16	98	94	92			14	86	
1915.....	6	13	71.5	.608	43.09	98	87	86			8	92	
1919.....	5	12	68.0	1.222	83.10	94	177	166	17			83	
1920.....	4	11	61.8	1.414	87.58	85	205	175	45			36	18
1922.....	4	8	61.1	1.076	65.91	84	156	131	50			25	25

¹ This table was published in the Monthly Labor Review for June, 1923.

TABLE A (7).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—STANDARD RAIL MILLS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	72	Over 72 and under 84.	84	
Rollers' helpers:															
1910.....	1	3	72.0	\$0.361	\$40.39	98	174	171					100		
1911.....	2	3	72.7	.284	20.56	99	88	87					33	67	
1912.....	2	6	72.6	.304	21.98	99	94	93					33	67	
1913.....	2	6	73.3	.323	23.61	100	100	100					50	50	
1914.....	2	4	72.0	.468	33.66	98	145	143					100		
1915.....	2	4	72.0	.407	29.30	98	126	123					100		
1919.....	1	2	72.0	.531	38.23	98	164	162					100		
1920.....	1	2	48.0	.977	46.90	65	302	199	100						
1922.....	3	7	63.0	.766	48.43	86	237	205		43		29	29		
Table lever men:															
1910.....	6	74	65.5	.454	28.25	98	109	103		32			59		8
1911.....	6	69	64.0	.422	26.08	95	101	94		35			65		
1912.....	6	80	67.1	.392	26.52	100	94	96		23			75		3
1913.....	6	80	67.1	.416	27.51	100	100	100		23			75		3
1914.....	7	62	64.0	.324	20.49	95	78	75	29			16	55		
1915.....	7	53	65.0	.366	22.92	97	88	83	26			9	64		
1919.....	5	44	60.5	.825	49.91	90	198	181	48				52		
1920.....	4	43	51.5	1.052	54.77	77	253	199	81			19			
1922.....	4	29	62.0	.580	35.86	92	139	130		41		41	17		
Table men:															
1910.....	4	26	72.0	.279	20.06	100	79	79					100		
1911.....	5	27	72.4	.262	18.97	101	74	74					96	4	
1912.....	5	30	72.0	.324	23.32	100	92	91					100		
1913.....	5	30	72.0	.354	25.47	100	100	100					100		
1914.....	4	32	70.4	.356	24.92	98	101	98				25	75		
1915.....	4	28	71.1	.336	23.68	99	95	93				14	86		
1919.....	1	4	48.0	.482	23.14	67	136	91	100						
1920.....	1	5	48.0	.526	25.25	67	149	99	100						
1922.....	1	6	51.0	.519	26.47	71	147	104		100					
Guide setters:															
1910.....	5	20	66.8	.440	29.26	98	112	110		15			70		
1911.....	7	27	66.8	.336	22.20	98	85	84		11	22	4	41	22	
1912.....	7	30	67.3	.346	23.14	99	88	87		10	20	3	47	20	
1913.....	4	17	67.9	.394	26.49	100	100	100		18			82		
1914.....	5	21	68.6	.394	27.11	101	100	104	14				86		
1915.....	5	21	68.6	.417	28.45	101	106	107	14				86		
1919.....	5	29	67.9	.835	56.70	100	212	214	17				83		
1920.....	4	21	55.9	1.110	63.23	82	282	239	52			48			
1922.....	4	18	58.8	.689	40.59	87	175	153		61		11	28		
Hot-saw men:															
1910.....	6	19	72.0	.289	20.79	100	102	102					100		
1911.....	7	16	72.0	.251	18.10	100	89	89					100		
1912.....	7	20	72.0	.260	18.69	100	92	91					100		
1913.....	7	20	72.0	.283	20.36	100	100	100					100		
1914.....	7	17	71.6	.263	18.86	99	93	92				6	94		
1915.....	7	17	71.6	.272	19.52	99	96	96				6	94		
1919.....	4	11	67.6	.580	39.21	94	205	193	18				82		
1920.....	4	13	59.8	.721	45.00	83	255	211	46				23	31	
1922.....	4	17	58.3	.487	28.36	81	172	139		65		18	18		
Hot-saw men's helpers:															
1910.....	6	64	72.4	.165	11.92	100	84	84					97		3
1911.....	7	66	72.1	.168	12.10	100	85	85					88	12	
1912.....	7	73	72.1	.169	12.20	100	86	86					89	11	
1913.....	6	60	72.1	.197	14.16	100	100	100					87	13	
1914.....	7	56	71.3	.187	14.08	99	100	99				11	89		
1915.....	7	61	71.8	.190	13.56	100	96	96				5	82	13	
1919.....	5	47	68.9	.485	33.42	96	246	236	13				87		
1920.....	4	27	57.9	.551	31.50	80	280	222	59			11	30		
1922.....	4	38	56.7	.410	23.43	79	208	165	21	32		8	39		

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TABLE A (7).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—STANDARD RAIL MILLS—Continued.

Occupation and year.	Number of plants.	Number of employ-ees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—				
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84
Hotbed lever men:													
1910.....	6	34	74.1	\$0.209	\$15.64	103	98	102				82	18
1911.....	7	31	72.1	.195	14.06	100	92	92				74	26
1912.....	7	35	72.1	.195	14.07	100	92	92				77	23
1913.....	7	36	72.1	.213	15.36	100	100	100				78	22
1914.....	7	32	71.6	.213	15.21	99	100	99			6	94	
1915.....	7	29	71.8	.209	14.94	100	98	97			3	97	
1919.....	5	31	67.4	.548	36.94	93	237	240	19			81	
1920.....	4	28	62.7	.577	36.48	87	271	238	39			39	21
1922.....	4	26	60.6	.415	24.82	84	195	162	31	15		35	19
Hotbed men:													
1910.....	6	44	73.6	.176	12.95	102	94	96				86	14
1911.....	7	47	72.0	.176	12.65	100	94	93				100	
1912.....	7	48	72.2	.180	12.98	100	96	95				96	4
1913.....	6	46	72.0	.183	13.54	100	100	100				100	
1914.....	7	43	71.7	.185	13.30	100	98	98			5	95	
1915.....	7	49	71.9	.174	12.54	100	93	93			2	98	
1919.....	4	22	67.6	.502	33.94	94	267	251	18			82	
1920.....	3	20	55.5	.636	36.45	77	338	269	80			20	
1922.....	4	44	60.1	.391	23.12	83	208	171	25	7		14	55
Straighteners, gag press:													
1910.....	5	106	59.0	.564	32.41	100	98	95	62		6	11	21
1911.....	6	94	56.9	.526	29.91	96	91	88	60		6	34	
1912.....	7	110	59.1	.514	30.45	100	89	89	51		5	44	
1913.....	7	101	59.2	.576	34.06	100	100	100	50		6	44	
1914.....	6	84	53.7	.571	30.59	91	99	90	75			25	
1915.....	6	85	56.2	.612	34.22	95	106	100	64			36	
1919.....	4	57	67.8	1.112	75.39	115	193	221	18			82	
1920.....	4	45	51.5	1.357	69.88	87	236	205	82			18	
1922.....	4	60	51.7	1.079	56.35	88	187	165	63	18		18	
Straighteners' helpers:													
1910.....	5	139	72.1	.205	14.55	103	81	84				66	17
1911.....	6	120	69.9	.205	14.05	100	81	81			17	83	
1912.....	7	146	70.2	.211	14.54	100	83	84			15	85	
1913.....	7	131	70.0	.253	17.28	100	100	100			17	83	
1914.....	6	102	71.7	.226	16.12	102	89	93			5	95	
1915.....	6	118	71.4	.219	15.47	102	87	89			8	92	
1919.....	5	69	67.8	.527	35.73	97	208	207	17			83	
1920.....	3	38	56.4	.627	36.19	81	248	209	53			47	
1922.....	4	80	61.9	.479	30.0	88	189	174	18	11		58	14
Chippers:													
1910.....	5	114	72.1	.231	16.78	103	87	89			11	14	54
1911.....	6	91	70.2	.233	16.44	100	87	88			2	18	80
1912.....	7	113	70.2	.224	15.79	100	84	84			2	18	81
1913.....	7	103	70.0	.267	18.76	100	100	100			14	4	83
1914.....	6	54	70.8	.270	19.07	101	101	102				19	81
1915.....	6	58	70.9	.301	21.31	101	113	114				17	83
1919.....	5	78	69.2	.747	51.69	99	280	276	12			88	
1920.....	4	48	62.4	.810	50.36	89	303	268	46			38	17
1922.....	4	55	61.9	.605	37.55	88	227	200	25	16		31	27
Drillers and punchers:													
1910.....	5	152	76.7	.220	16.78	109	88	96			13	34	53
1911.....	6	133	70.6	.218	15.35	100	88	88				16	84
1912.....	7	203	70.5	.214	15.05	100	86	86				17	83
1913.....	7	179	70.5	.249	17.45	100	100	100			11	2	87
1914.....	6	100	71.2	.251	17.80	101	101	102				12	88
1915.....	6	90	71.0	.280	19.67	101	112	114				16	84
1919.....	5	143	67.8	.668	45.29	96	268	260	17			83	
1920.....	3	77	62.4	.661	42.21	89	265	242	39			35	26
1922.....	4	92	62.1	.483	30.08	88	194	173	33			20	48

TABLE A (7).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—STANDARD RAIL MILLS—Concluded.

Occupation and year.	Number of plants.	Number of employ-ees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—									
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84			
Cold-saw men:																		
1910	5	18	74.7	\$0.191	\$14.21	103	82	83	.....	33	.....	11	.....	.....	.....	.....	.....	56
1911	6	19	69.3	.194	13.43	96	83	79	.....	.....	42	37	21	.....	.....	.....	.....	.....
1912	6	22	71.8	.213	15.50	99	91	91	.....	.....	36	27	18	.....	.....	.....	.....	18
1913	6	23	72.3	.233	17.04	100	100	100	.....	.....	35	26	17	.....	.....	.....	.....	22
1914	7	16	71.3	.217	15.46	99	93	91	.....	6	13	75	.....	.....	.....	.....	.....	6
1915	7	13	73.4	.218	15.99	102	94	94	.....	8	8	62	.....	.....	.....	.....	.....	23
1919	4	13	62.8	.499	31.34	87	214	184	38	.....	.....	62	.....	.....	.....	.....	.....	.....
1920	4	16	62.7	.578	38.00	87	248	223	25	.....	.....	50	25	.....	.....	.....	.....	.....
1922	3	18	52.9	.413	22.14	73	177	130	72	.....	.....	22	6	.....	.....	.....	.....	.....
Cold-saw mens' helpers:																		
1910	3	30	76.0	.171	12.98	103	87	88	.....	.....	.....	67	.....	.....	.....	.....	.....	33
1911	4	36	72.0	.172	12.38	98	87	84	.....	.....	100	.....	.....	.....	.....	.....	.....	.....
1912	7	54	73.3	.183	13.56	99	93	92	.....	4	.....	81	.....	.....	.....	.....	.....	15
1913	6	52	73.8	.197	14.70	100	100	100	.....	.....	.....	85	.....	.....	.....	.....	.....	15
1914	7	48	70.5	.186	13.09	96	94	99	.....	8	8	83	.....	.....	.....	.....	.....	.....
1915	7	52	74.3	.185	13.82	101	94	94	.....	8	8	54	.....	.....	.....	.....	.....	31
1919	5	52	69.2	.479	33.15	94	243	226	12	.....	.....	88	.....	.....	.....	.....	.....	.....
1920	3	37	68.1	.525	36.08	92	266	245	11	.....	.....	46	43	.....	.....	.....	.....	.....
1922	2	55	60.3	.375	22.89	82	190	156	31	.....	.....	69	.....	.....	.....	.....	.....	.....
Inspectors:																		
1910	5	68	75.5	.225	16.77	107	87	93	.....	13	.....	44	.....	.....	.....	.....	.....	43
1911	7	68	70.9	.230	16.25	101	89	90	.....	4	9	87	.....	.....	.....	.....	.....	.....
1912	7	76	71.0	.228	16.12	101	88	89	.....	4	8	88	.....	.....	.....	.....	.....	.....
1913	7	73	70.5	.258	18.11	100	100	100	.....	7	10	84	.....	.....	.....	.....	.....	.....
1914	7	62	70.5	.236	16.65	100	91	92	.....	5	24	71	.....	.....	.....	.....	.....	.....
1915	7	80	71.5	.239	17.11	101	93	94	.....	4	8	81	8	.....	.....	.....	.....	.....
1919	5	59	67.5	.581	39.22	96	225	217	17	.....	3	80	.....	.....	.....	.....	.....	.....
1920	4	53	63.1	.649	40.91	90	252	226	26	.....	13	38	23	.....	.....	.....	.....	.....
1922	4	48	60.6	.447	26.99	86	173	149	44	.....	4	21	31	.....	.....	.....	.....	.....
Laborers:																		
1910	6	501	76.0	.163	12.31	108	84	90	.....	9	4	42	.....	.....	.....	.....	.....	45
1911	7	382	71.9	.169	12.12	102	88	89	.....	5	15	60	12	.....	.....	.....	.....	8
1912	7	417	71.9	.168	12.07	102	87	89	.....	7	13	57	16	.....	.....	.....	.....	6
1913	7	377	70.5	.193	13.61	100	100	100	.....	7	10	82	.....	.....	.....	.....	.....	1
1914	7	222	69.9	.185	12.99	99	96	95	.....	11	16	73	.....	.....	.....	.....	.....	.....
1915	7	339	71.0	.182	12.95	101	94	95	.....	5	6	89	.....	.....	.....	.....	.....	.....
1919	5	425	65.6	.478	31.36	93	248	230	26	.....	4	67	.....	.....	.....	.....	.....	3
1920	4	319	69.8	.531	37.02	99	275	272	3	1	6	2	39	.....	.....	.....	.....	.....
1922	4	179	64.5	.354	22.82	91	183	168	32	.....	2	1	65	.....	.....	.....	.....	.....

The number of employees reported in 1922 is not always the actual number of employees, as the totals in most cases contain some duplications, or repeated employees, as stated in the general explanation of Table B (p. 15). Of the 662 employees reported in selected occupations for all districts combined, 661 are actually engaged and the 1,308 shown in all occupations represent 1,270 actual employees.

The number of employees reported, together with the net number of actual employees for selected occupations and for all occupations in each district and all districts combined, are shown in Table 14.

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TABLE 14.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND ALL OCCUPATIONS, 1922, BY DISTRICTS—STANDARD RAIL MILLS.

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number.
Pittsburgh.....	377	1	376	633	3	630
Great Lakes and Middle West.....	285	.....	285	675	35	640
Total.....	662	1	661	1,308	38	1,270

The customary working time per week of employees in the standard rail mill department for the years 1910 to 1922 has been classified, and the number and per cent of employees coming under each classification are shown in Table B (7).

In 1922, 99 per cent of the employees in selected occupations in standard rail mills worked 6 days per week, the remainder working 7 days all or part of the time.

Nearly all employees in selected occupations have worked 6 turns per week since 1911. In 1919, 100 per cent worked 6 turns per week, while in 1920 and 1922, 98 and 99 per cent, respectively, worked a week of this length.

When employees in all occupations for all districts combined are considered, the per cent of employees working 6 days per week in 1922 is somewhat lower than in selected occupations alone. This decrease was absorbed by an increase in 7-day workers.

TABLE (B) (7).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED 1910 TO 1922, BY YEARS—STANDARD RAIL MILLS.

[For explanation of this table see p. 15.]

District.	Year.	Number of plants.	Number of employees. ¹	Number of employees whose customary working time per week was—					Per cent of employees whose customary working time per week was—					
				5 days and 6 days alternate-ly.	5 days, 6 days, and 6 days in rota-tion.	6 days	6 days and 7 days alter-nate-ly.	6 days, 6 days, and 7 days in rota-tion.	7 days	5 days and 6 days alter-nate-ly.	5 days, 6 days, and 6 days in rota-tion.	6 days	6 days and 7 days alter-nate-ly.	6 days, 6 days, and 7 days in rota-tion.	7 days
EASTERN.														
Selected oc-cupations.	1913	1	199	.....	.....	199	.....	.....	.....	.....	.....	.....	.....	.....
	1914	2	303	88	9	206	.....	.....	.....	29	3	100	.....	.....
	1915	2	322	69	18	235	.....	.....	.....	21	6	73	.....	.....
All occupa-tions.	1914	2	430	117	9	298	.....	.....	.6	27	2	69	.....	1
	1915	2	481	89	18	368	.....	.....	6	19	4	77	.....	1

¹ The figures for this column for the years 1910 to 1915 represent the number of jobs and for the years 1919, 1920 and 1922 the actual number of men employed.

TABLE (B) (7).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED 1910 TO 1922, BY YEARS—STANDARD RAIL MILLS—Concluded.

District.	Year.	Number of plants.	Number of employees.	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—						
				5 days and 6 days alternately.	5 days, 6 days, and 6 days in rotation.	6 days	6 days and 7 days alternately.	6 days, 7 days, and 7 days in rotation.	7 days	5 days and 6 days alternately.	5 days, 6 days, and 6 days in rotation.	6 days	6 days and 7 days alternately.	6 days, 7 days, and 7 days in rotation.	7 days		
PITTSBURGH.																	
Selected occupations.	1910	2	374			312			62				83			17	
	1911	3	447			430	10		7				96	2		2	
	1912	3	431			412	12						96	3		2	
	1913	3	507			473	13		21				93	3		4	
	1914	2	356			351			5				99			1	
	1915	2	452			427	6		19				84	1		4	
	1919	2	618			618							100				
	1920	2	454			444	6		4				98	1		1	
	1922	2	377			373		4					99		1		
All occupations.	1914	2	548			503	14		31				92	3		6	
	1915	2	636			567	14		75				86	2		11	
	1920	2	654			585	31	3	35				89	5	(²)	5	
	1922	2	633			579	24	4	26				91	4	1	4	
G. L. & M. W.																	
Selected occupations.	1910	4	1,161			727	8	27	399				63	1	2	34	
	1911	4	908			796	52	27	33				88	6	3	4	
	1912	4	1,026			900	76	27	23				88	7	3	2	
	1913	4	920			904	6	3	7				88	1	(²)	1	
	1914	3	398			398							100				
	1915	3	420			420							100				
	1919	3	556			553	3						99	1			
	1920	2	246			241	5						98	2			
	1922	2	285			280	1		4				98	(²)		1	
All occupations.	1914	3	747			718			29				96			4	
	1915	3	808			779	8		21				96	1		3	
	1920	2	695			662	4	4	25				95	1	1	4	
	1922	2	675			541	6	5	123				80	1	1	18	
TOTAL.																	
Selected occupations.	1910	6	1,535			1,039	8	27	461				68	1	2	30	
	1911	7	1,355			1,226	62	27	40				91	5	2	3	
	1912	7	1,457			1,312	88	27	30				90	6	2	2	
	1913	7	1,427			1,377	19	3	28				97	1	(²)	2	
	1914	7	1,057	88	9	1,955			5	8	1		90	1		1	
	1915	7	1,194	69	18	1,082	6		19	6	2		91	1		2	
	1919	5	1,174			1,171	3						100	(²)			
	1920	4	700			685	11		4				98	2		1	
	1922	4	662			653	1	4	4				99	(²)	1	1	
All occupations.	1914	7	1,725	117	9	1,519	14		66	7	1		88	1		4	
	1915	7	1,945	89	18	1,714	22		102	5	1		88	1		5	
	1920	4	1,349			1,247	35	7	60				92	3	1	4	
	1922	4	1,308			1,120	30	9	149				86	2	1	11	

² Less than 1 per cent.

The most significant facts concerning customary and actual working time, actual earnings per pay period, and earnings per hour of employees in 4 standard rail mills, for the year 1922, by occupations and districts, are shown in Table C (7). In addition, for each occupation are shown the number of positions and the number of employees actually working during the pay period and also the time and earnings of the same employees during the same period at occupations other than the occupation specified.

Referring to the occupation of guide setters, for example, there were 13 positions in the 4 plants reported and 18 men worked in these positions during the pay period scheduled. These men averaged 6 turns per week, 9.8 hours per turn, and 58.8 hours per week. The longest hours per turn in any occupation were 10.9 for roll engineers, and the shortest were 8 for reheaters.

The occupation of rollers shows that the employees who filled these positions worked regularly, as the eight positions required in these plants under normal operations were worked full time by the same number of employees as there were positions.

In no selected occupation were there any employees working 84 hours per week, and only 1 employee in 1 occupation worked over 72 hours per week.

In this department the highest average hourly earnings were \$1.079 for straighteners, gag press, followed by \$1.076 for rollers, while the lowest were 35.4 cents for laborers.

Employees in most occupations frequently work also at other occupations. This is the case in every selected occupation in this department with the exception of roll engineers. Separate figures are therefore given showing the total average hours and earnings for such employees at all occupations in which they were engaged. In many instances the secondary occupations were those paying lower rates than the chief occupation of the employee—this is especially true in the more skilled occupations. For example, straighteners, gag press, averaged \$1.079 per hour at their regular occupation, but when their average hourly earnings at all occupations were considered they earned 93.2 cents. For unskilled occupations the average hourly earnings at all occupations is often higher than that of their regular occupation, due to their being advanced to more skilled work when such employees are not available. Thus, while laborers averaged 35.4 cents per hour, the same employees averaged 45.9 cents when their total time and earnings are considered.

TABLE (C) (7).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—STANDARD RAIL MILLS.

[For explanation of this table see p. 16.]

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.						Average full-time earnings per week.	Scheduled pay period (15 days).												
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—					Specified occupation.			Specified and other occupations.									
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.		72	Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.					
Charging-machine operators: Pittsburgh.....	2	12	6.0	9.9	59.3	13	7				6							\$31.43	108.5	\$57.48	\$0.530	111.0	\$58.32	\$0.525
Reheaters: Pittsburgh.....	2	6	6.2	8.0	49.2	7	3	4										37.00	83.4	62.76	.752	94.3	67.05	.711
Reheaters' helpers: Pittsburgh.....	2	12	6.0	8.7	51.9	14	10				4							31.87	87.4	53.62	.614	97.6	58.60	.601
Roll engineers: Pittsburgh.....	2	8	6.0	12.	72.0	9						9						37.22	130.0	67.21	.517	130.0	67.21	.517
G. L. and M. W.....	2	5	7.1	9.2	63.2	5		4					1					34.06	137.9	74.36	.539	137.9	74.36	.539
Total.....	4	13	6.4	10.9	63.6	14		4				9	1					36.10	132.8	69.76	.525	132.8	69.76	.525
Rollers: Pittsburgh.....	2	4	6.0	10.1	60.8	4		2			2							71.80	125.1	147.75	1.181	127.1	148.50	1.168
G. L. and M. W.....	2	4	6.0	10.3	61.5	4		2				2						60.02	129.9	126.71	.976	129.9	126.71	.976
Total.....	4	8	6.0	10.2	61.1	8		4				2	2					65.91	127.5	137.23	1.076	128.5	137.60	1.071
Rollers' helpers: Pittsburgh.....	2	4	6.0	10.1	60.8	5		3			2							48.21	97.7	77.45	.793	111.6	87.85	.787
G. L. and M. W.....	1	1	6.0	12.0	72.0	2						2						48.96	77.5	52.74	.680	154.5	83.52	.541
Total.....	3	5	6.0	10.5	63.0	7		3				2	2					48.43	91.9	70.39	.766	123.9	86.61	.699
Tablelever men: Pittsburgh.....	2	20	6.0	10.5	62.7	20		8			12							36.55	127.5	74.34	.583	127.6	74.36	.583
G. L. and M. W.....	2	7	6.0	10.0	60.0	9		4				5						34.32	101.7	58.23	.572	134.6	70.23	.522
Total.....	4	27	6.0	10.3	62.0	29		12			12	5						35.86	119.5	69.34	.580	129.7	73.08	.563

TABLE (C) (7).--AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—STANDARD RAIL MILLS—Concluded.

Occupation and district.	Number of plants.	Positions.				Employees working in scheduled pay period.						Average full-time earnings per week.	Scheduled pay period (15 days).							
		Number.	Average customary full time of employ-ees in the positions.			Number.	Number whose customary full-time hours per week were--						Specified occupation.			Specified and other occu-pations.				
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72		Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.	
Table men:																				
G. L. and M. W.....	1	4	6.0	8.5	51.0	6	6					\$26.47	66.4	\$34.44	\$0.519	106.6	\$52.01	\$0.488		
Guide setters:																				
Pittsburgh.....	2	8	6.0	9.3	55.9	11	9		2			38.57	78.5	54.20	.690	97.8	64.95	.664		
G. L. and M. W.....	2	5	6.0	10.6	63.6	7	2			5		43.76	99.3	68.37	.688	128.6	81.91	.637		
Total.....	4	13	6.0	9.8	58.8	18	11		2	5		40.59	86.6	59.71	.689	109.8	71.54	.652		
Hot-saw men:																				
Pittsburgh.....	2	6	6.0	9.6	57.5	8	5		3			27.60	94.4	45.31	.480	127.3	57.51	.452		
G. L. and M. W.....	2	8	6.0	9.8	58.9	9	6			3		29.04	109.0	53.69	.493	115.2	56.67	.492		
Total.....	4	14	6.0	9.7	58.3	17	11		3	3		28.36	102.1	49.75	.487	120.9	57.06	.472		
Hot-saw men's helpers:																				
Pittsburgh.....	2	8	6.0	9.3	55.9	15	12		3			25.94	56.6	26.28	.464	71.7	31.81	.444		
G. L. and M. W.....	2	13	6.0	9.5	57.2	23	8			15		21.79	67.1	25.56	.391	115.8	43.31	.374		
Total.....	4	21	6.0	9.5	56.7	38	8	12		3	15	23.43	63.0	25.84	.410	98.4	38.77	.394		
Hotbed lever men:																				
Pittsburgh.....	2	12	6.0	10.7	64.0	13	4		9			27.07	118.7	50.21	.423	119.6	50.52	.423		
G. L. and M. W.....	2	9	6.0	9.3	56.0	13	8			5		22.57	83.0	33.40	.403	109.0	43.42	.398		
Total.....	4	21	6.0	10.1	60.6	26	8	4		9	5	24.82	100.8	41.80	.415	114.3	46.97	.411		
Hotbed men:																				
Pittsburgh.....	2	7	6.0	10.4	62.1	9	3		6			25.77	95.6	39.66	.415	101.0	41.60	.412		
G. L. and M. W.....	2	15	6.0	9.9	59.2	35	11			24		22.44	53.2	20.19	.379	125.3	51.19	.409		
Total.....	4	22	6.0	10.0	60.1	44	11	3		6	24	23.12	61.9	24.17	.391	120.3	49.23	.409		

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Straighteners, gag press :																			
Pittsburgh.....	2	28	6.0	8.1	48.6	36	25	11					48.55	69.4	69.34	.999	79.8	73.15	917
G. L. and M. W.....	2	16	6.0	9.5	57.0	24	13					11	68.06	72.2	86.16	1.194	104.1	98.87	949
Total.....	4	44	6.0	8.6	51.7	60	38	11				11	56.35	70.5	76.07	1.079	89.5	83.44	932
Straighteners' helpers:																			
Pittsburgh.....	2	33	6.0	10.9	65.2	55		9		46			32.21	60.3	29.80	.494	98.4	49.11	.499
G. L. and M. W.....	2	18	6.0	9.3	56.0	25	14			11			25.37	77.5	35.14	.453	98.6	42.65	.433
Total.....	4	51	6.0	10.3	61.9	80	14	9		46	11		30.07	65.7	31.47	.479	98.5	47.10	.478
Chippers:																			
Pittsburgh.....	2	24	6.0	10.7	64.3	33		9		17	7		37.94	90.3	53.29	.590	116.8	63.19	.541
G. L. and M. W.....	2	18	6.0	9.8	58.7	22	14			8			36.98	81.8	51.52	.630	117.2	66.74	.570
Total.....	4	42	6.0	10.3	61.9	55	14	9		17	15		37.55	86.6	52.58	.605	117.0	64.61	.552
Drillers and punchers:																			
Pittsburgh.....	2	30	6.0	11.9	71.3	41				18	23		36.08	102.8	52.01	.506	130.4	62.24	.477
G. L. and M. W.....	2	40	6.0	9.2	55.2	51	30			21			25.45	85.4	39.33	.461	116.6	53.31	.457
Total.....	4	70	6.0	10.4	62.1	92	30			18	44		30.18	93.1	44.98	.483	122.8	57.29	.467
Cold-saw men:																			
Pittsburgh.....	1	2	6.0	11.4	68.0	4				4			26.52	38.3	14.91	.360	131.3	50.38	.384
G. L. and M. W.....	2	11	6.0	8.4	50.2	14	13			1			20.88	79.0	32.84	.416	112.1	53.95	.481
Total.....	3	13	6.0	8.8	52.9	18	13			4	1		22.14	69.9	28.86	.413	116.3	53.16	.457
Cold-saw men's helpers:																			
Pittsburgh.....	1	16	6.0	11.3	68.0	38				38			24.48	39.2	14.09	.360	111.5	43.92	.394
G. L. and M. W.....	1	10	6.0	8.0	48.0	17	17						19.34	47.5	19.16	.403	76.0	32.54	.428
Total.....	2	26	6.0	10.1	60.3	55	17			38			22.89	41.7	15.66	.375	100.5	40.40	.402
Inspectors:																			
Pittsburgh.....	2	15	6.0	10.4	62.2	18	6		2	10			29.42	111.0	52.53	.473	122.9	56.95	.463
G. L. and M. W.....	2	23	6.0	9.9	59.5	30	15			15			25.53	96.3	41.37	.429	124.4	54.28	.436
Total.....	4	38	6.0	10.1	60.6	48	21		2	10	15		26.90	101.8	45.55	.447	123.9	55.28	.446
Laborers:																			
Pittsburgh.....	2	31	6.0	10.8	64.6	132	54		3	2	73		22.67	29.8	10.45	.351	86.1	40.96	.476
G. L. and M. W.....	2	12	6.0	10.7	64.0	47	5			42			23.23	32.0	11.63	.363	106.2	44.83	.422
Total.....	4	43	6.0	10.7	64.5	179	59		3	2	115		22.82	30.4	10.76	.354	91.4	41.98	.450

STANDARD RAIL MILLS.

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Table D (7) shows the number of employees and the average and classified earnings per hour for guide setters and straighteners, gag press, in 1922, by districts and all districts combined.

The range of classified earnings for guide setters was from 50 to 90 cents, with an average of 69.1 cents. The range for straighteners, gag press, was from 35 cents to \$1.75, with an average of \$1.084.

In the occupation of guide setters there is very little difference in the average hourly earnings for employees in the two districts, but for straighteners, gag press, there is a difference of 20.4 cents.

TABLE D (7).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS—STANDARD RAIL MILLS.

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—									
			35 and under 40 cts.	40 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.	70 and under 80 cts.	80 and under 90 cts.	90 cents and under \$1.	\$1 and under \$1.25.	\$1.25 and under \$1.50.	\$1.50 and under \$1.75.
GUIDE SETTERS.												
Pittsburgh.....	11	.690			1	4	5	1				
Great Lakes and Middle West..	7	.691			1	4	1	1				
Total.....	18	.691			2	8	6	2				
STRAIGHTENERS, GAG PRESS.												
Pittsburgh.....	36	.999	1		3	2	3	7	9	2	9	
Great Lakes and Middle West..	24	1.203						5	2	6	8	3
Total.....	60	1.084	1		3	2	3	12	11	8	17	3

Customary turns per week, hours per turn, and full-time hours per week of those employees who regularly worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of the time, are presented in detail in Table E (7) for the standard rail mill department. As stated in the general explanation of this table (p. 17) data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (7).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—STANDARD RAIL MILLS.

[This table includes only those employees who worked but one combination of customary days and hours during pay period. For explanation of table see p. 17.]

DAY TURNS.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.			
Day turns.					Night turns.				Pitts- burgh.	Great Lakes and Middle West.	Total.	
Turns per week.	Hours.				Turns per week.	Hours.						
	Mon- day to Friday.	Satur- day.	Sun- day.	Per week.		Mon- day to Friday.	Satur- day.	Sun- day.				Per week.
7	12	12	12	84	.....	.....	.....	.....	.....	1	1
7	10	10	6	66	.....	.....	.....	.....	.....	2	2
7	8	8	8	56	.....	.....	.....	.....	.....	1	1
6	12	12	.....	72	.....	.....	.....	.....	.....	1	1

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

7	12	12	12	84	7	12	12	12	84	.....	41	41
7	12	12	12	84	6	12	12	12	72	.....	3	3
7	10	10	10	70	7	14	14	14	98	22	1	23
7	8 ^{7/8}	8 ^{7/8}	8	59 ^{1/2}	7	8 ^{7/8}	8 ^{7/8}	8	59 ^{1/2}	.....	4	4
7	8	8	8	56	7	8	8	8	56	.....	42	42
7	8	8	8	56	6	8	8	8	48	.....	5	5
7	8	8	8	56	6	8	8	8	48	.....	3	3
7	8	7	8	55	6	8	8	8	48	3	.....	3
6	12	12	.....	72	6	12	12	12	72	.....	165	165
6	12	12	.....	72	6	12	12	12	72	14	.....	14
6	12	9	.....	69	6	12	.....	14	74	3	.....	3
6	12	9	.....	69	6	12	.....	12	72	138	.....	138
6	11	11	.....	66	6	13	.....	13	78	16	.....	16
6	11	10	.....	65	6	13	.....	13	78	2	.....	2
6	11	9	.....	64	6	13	.....	13	78	2	.....	2
6	11	9	.....	64	6	12	.....	12	72	4	.....	4
6	11	8	.....	63	6	13	.....	13	78	10	.....	10
6	10	10	.....	60	7	14	.....	14	102	22	.....	22
6	10	10	.....	60	6	14	.....	14	84	78	.....	78

SUMMARY.

tem.	Pitts- burgh district.	Great Lakes and Middle West district.	Total.	Per cent of em- ployees who worked but one combina- tion of days and hours.
Total standard rail mill employees.....	630	640	1,270	.....
Employees who worked—				
One combination of days and hours only.....	500	604	1,104	100
7-day week or straight or average day of 12 or more hours all or part of the time.....	317	266	583	53
7-day week all of the time.....	24	90	114	10
7-day week part of the time.....	25	11	36	3
Straight or average day of 12 or more hours all of the time.....	153	211	364	33
Straight or average day of 12 or more hours part of the time.....	159	.....	159	14
7-day week and straight or average day of 12 hours or more all of the time.....	22	43	65	6

Of the total number of standard rail mill employees reported, 1,104 worked but one combination of customary days and hours. Of these 1,104 employees, 583, or 53 per cent, regularly worked 7 days per week or a straight or average day of 12 or more hours all or part of the time, 5 working days only, and 578 alternating between day and night work. Thirty-three per cent (364) worked a straight or average day of 12 or more hours all of the time. Six per cent (65) regularly worked 7 days per week and a straight or average day of 12 or more hours all of the time.

BAR MILLS.

The 1922 survey includes 25 representative bar mills which employed 6,399 men in all occupations. Of the total number of employees reported 4,664 are included in the principal productive occupations for which separate figures are given. Data were first obtained for this department in 1907 and comparative figures are presented for the years 1907 to 1922.¹

Considering the principal productive occupations as a whole, the average full-time hours per week of employees in 1922 are lower than in any year since 1907 or 1 per cent less than in 1920, the previous low mark in customary working time in this department. The trend of earnings has been in the opposite direction. Average earnings per hour, while 19 per cent lower in 1922 than in 1919 and 31 per cent lower than in 1920, were still much higher than in any other year reported. Hourly earnings were 73 per cent greater in 1922 than in the base year, 1913. Full-time weekly earnings followed very closely the course of hourly earnings, as the changes in full-time hours per week were very slight as compared with the variations in earnings per hour. The average earnings per hour in 1922 for the department as a whole, including all selected occupations and others, were 48.6 cents, or 32 per cent less than in 1920.

The most significant facts concerning average earnings and average hours in each of the 18 selected occupations are summarized in Table A (8).

While the customary working time of employees in selected occupations as a whole was less in 1922 than in any other year reported, when each occupation is considered separately the number of full-time hours per week in 11 of the 18 occupations was smaller than in any other year for which data were obtained, in 1 occupation it was smaller than in any year except 1920, when it was the same, and in 6 occupations it was only slightly larger than the smallest number shown for any year, the increases ranging from 0.2 hours per week for stockers and heaters to 2 hours per week for laborers. Hours per week in 1922 ranged from 56.6 hours for stranders to 69.1 hours for roll engineers.

Average earnings per hour in all of the 18 selected occupations, while high in 1922 as compared with any year for which data are presented from 1907 to 1915, were somewhat smaller than the hourly earnings in 1919 and 1920. The peak in earnings was reached in 1920, and decreases since that time ranged from 17.3 cents per hour for bundlers to 53.3 cents for rollers. The earnings per hour of bundlers ranged from 17.4 cents in 1908 to 55.5 cents in 1920. In 1922 they received 38.2 cents per hour. Rollers were paid an average of \$1.416 in 1922 as compared with \$1.949 in 1920 and 98.5 cents in 1913. Average full-time weekly earnings decreased in each selected occupation in about the same proportion as average hourly earnings.

In only two occupations in 1922 was there reported any 84-hour week work, according to the classification of the full-time hours of

¹ No data available for 1916, 1917, 1918, and 1921.

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employees in Table A (8). For laborers there was less than 1 per cent reported and in roll engineers only 3 per cent of the employees were on that basis. Nearly all employees customarily worked 72 hours per week or less.

Index numbers for full-time hours per week, earnings per hour, and full-time weekly earnings are also contained in Table A (8). These are simply percentages computed from the averages presented in the table, using the average for 1913 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 4.

TABLE A (8).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—BAR MILLS.¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	Over 72 and under 84.	84
Stockers:														
1907.....	8	93	64.4	\$0.178	\$11.43	107	82	89	9	9	70	9	4	
1908.....	8	90	64.1	.167	10.72	106	77	83	11	9	66	14		
1909.....	8	88	64.2	.168	10.79	107	78	84	9	9	78	3		
1910.....	13	170	59.0	.250	14.24	98	116	110	16	25	4	51	5	
1911.....	15	211	60.9	.217	12.94	101	100	100	13	19	21	34	13	
1912.....	15	217	60.9	.231	13.79	101	107	107	12	17	27	31	13	
1913.....	31	374	60.2	.216	12.89	100	100	100	4	25	34	36	1	
1914.....	41	603	60.4	.199	12.00	100	92	93	2	33	18	43	4	
1915.....	41	582	60.2	.198	11.91	100	92	92	1	46	9	39	4	
1919.....	15	298	63.7	.524	33.38	106	243	259	1	9	31	51	9	
1920.....	22	458	61.5	.612	37.69	102	283	292	7	26	7	51	8	
1922.....	22	352	59.2	.420	24.90	98	194	193	11	40	5	34	10	
Heaters:														
1907.....	15	121	63.9	.508	32.35	107	86	93	2	13	2	70	10	2
1908.....	15	112	63.9	.467	29.66	107	79	85	3	18	2	61	15	2
1909.....	15	112	64.0	.488	31.06	107	83	89	3	18	2	70	4	2
1910.....	25	217	62.9	.507	31.73	105	86	91	8	13	7	58	10	1
1911.....	26	184	62.7	.510	31.87	105	86	92	10	17	1	60	9	1
1912.....	26	199	62.4	.482	29.84	105	82	86	9	22	1	57	9	1
1913.....	44	295	59.7	.590	34.74	100	100	100	10	37	1	46	3	1
1914.....	57	409	59.9	.548	32.49	100	93	94	9	34	1	52	2	(*)
1915.....	57	392	60.1	.562	33.50	101	95	96	9	35	(*)	52	3	1
1919.....	23	209	61.7	1.147	70.77	103	194	204	13	1	17	60	8	
1920.....	24	213	60.1	1.176	70.73	101	189	204	13	27	2	52	2	5
1922.....	23	169	59.9	.759	45.50	106	129	131	9	34		51	4	2
Heaters' helpers:														
1907.....	14	167	65.3	.246	15.77	108	91	97	2	12	2	65	16	4
1908.....	14	153	65.1	.227	14.50	108	84	89	2	16	3	56	21	3
1909.....	14	151	65.0	.234	14.87	107	87	92	2	16	3	74	1	4
1910.....	24	295	62.6	.273	16.77	103	101	103	16	11	8	52	11	1
1911.....	25	293	62.7	.259	15.94	104	96	98	16	13	2	55	10	3
1912.....	25	319	62.2	.280	16.01	103	97	99	14	23	2	50	9	1
1913.....	42	467	60.5	.269	16.21	100	100	100	8	42	2	44	4	(*)
1914.....	54	582	60.9	.265	16.09	101	99	99	6	36	1	52	5	(*)
1915.....	54	579	60.3	.272	16.37	100	101	101	11	32	(*)	50	5	(*)
1919.....	21	323	60.7	.655	39.76	100	243	245	24	1	17	46	10	3
1920.....	23	435	59.5	.744	44.16	98	277	272	14	30	5	46	2	3
1922.....	25	326	59.1	.617	30.56	98	192	189	6	52		38	3	

¹ This table was published in the Monthly Labor Review for June, 1923.

² Less than 1 per cent.

TABLE A (8).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922 BY OCCUPATIONS—BAR MILLS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84
Chargers and helpers:															
1907.....	12	104	65.5	\$0.173	\$11.34	105	77	81	.....	10	5	68	15	2	.....
1908.....	12	102	65.6	.161	10.56	105	71	75	.....	10	5	66	20	.....	.....
1909.....	12	107	65.9	.161	10.60	105	71	76	.....	9	4	75	7	5	.....
1910.....	18	179	65.3	.192	12.40	104	85	89	7	7	8	59	20	.....	.....
1911.....	19	185	64.8	.184	11.90	104	81	85	6	14	3	59	18	.....	.....
1912.....	19	182	65.0	.192	12.45	104	85	89	5	13	3	61	18	.....	.....
1913.....	31	262	62.5	.226	14.00	100	100	100	4	27	2	63	3	1	.....
1914.....	41	346	61.9	.219	13.47	99	97	96	4	32	1	62	1	1	.....
1915.....	41	333	61.7	.222	13.56	99	98	97	9	27	(*)	62	2	1	.....
1919.....	14	189	62.4	.561	35.01	100	248	250	17	10	5	55	10	3	1
1920.....	19	328	61.9	.636	39.45	99	281	282	5	28	2	60	5	.....	.....
1922.....	21	293	61.2	.427	26.24	98	189	187	6	36	2	38	18	.....	.....
Drag-downs:															
1907.....	11	86	64.4	.271	17.31	106	96	102	.....	19	.....	60	19	2	.....
1908.....	11	82	63.9	.246	15.58	105	87	92	.....	24	.....	52	23	.....	.....
1909.....	11	83	64.0	.250	15.93	105	89	94	.....	24	.....	70	4	2	.....
1910.....	19	132	65.1	.269	17.44	107	95	103	.....	18	3	57	19	3	.....
1911.....	20	127	64.7	.262	16.78	106	93	99	.....	24	.....	55	20	2	.....
1912.....	20	130	64.3	.253	16.12	106	90	95	.....	25	.....	54	19	2	.....
1913.....	33	186	60.8	.282	16.98	100	100	100	9	38	1	44	7	2	.....
1914.....	45	265	60.7	.277	16.58	100	98	98	6	38	.....	49	6	1	.....
1915.....	45	256	61.1	.280	16.96	100	99	100	5	36	.....	51	7	1	.....
1919.....	18	131	64.9	.696	45.17	107	247	266	3	11	62	21	.....	.....	.....
1920.....	20	205	60.6	.725	43.33	100	257	255	17	16	2	59	6	.....	.....
1922.....	20	161	59.7	.470	27.98	98	167	165	7	52	.....	32	8	.....	.....
Roll engineers:															
1907.....	13	58	72.3	.226	16.29	104	91	95	.....	.....	.....	53	9	31	7
1908.....	13	56	71.4	.221	15.76	103	89	92	.....	.....	.....	50	18	29	4
1909.....	13	56	71.5	.217	15.52	103	88	91	.....	.....	.....	54	11	32	4
1910.....	22	99	72.0	.229	16.46	104	93	96	.....	3	40	26	23	7	.....
1911.....	22	95	70.4	.228	16.07	102	92	94	.....	.....	.....	57	14	24	2
1912.....	22	97	70.0	.229	16.05	101	93	94	.....	4	1	53	12	28	2
1913.....	41	153	69.2	.247	17.06	100	100	100	.....	7	6	45	16	22	4
1914.....	52	183	68.8	.247	16.97	99	100	99	.....	6	5	47	26	11	4
1915.....	52	178	68.9	.246	16.77	99	100	98	.....	6	4	49	27	12	2
1919.....	21	94	70.2	.558	39.17	101	226	230	2	.....	15	31	35	2	15
1920.....	22	109	69.7	.657	45.65	101	266	268	3	2	3	39	12	39	3
1922.....	22	100	69.1	.478	32.75	100	194	192	2	10	.....	43	23	19	3
Rollers:															
1907.....	13	65	65.5	1.013	66.88	110	103	114	.....	17	17	43	18	5	.....
1908.....	13	63	65.7	.878	57.88	111	89	98	.....	19	13	44	19	5	.....
1909.....	13	63	65.5	.917	60.40	110	93	103	.....	19	13	52	16	.....	.....
1910.....	22	124	62.4	.928	58.21	105	94	99	12	16	13	47	12	.....	.....
1911.....	23	120	62.0	.873	54.65	105	89	93	13	22	8	43	15	.....	.....
1912.....	24	128	61.6	.863	53.60	104	88	91	12	26	9	38	16	.....	.....
1913.....	42	173	59.3	.985	58.85	100	100	100	.....	56	.....	43	1	.....	.....
1914.....	56	216	59.6	.936	56.13	101	95	95	.....	49	.....	51	.....	.....	.....
1915.....	56	215	59.4	.944	56.75	100	96	96	.....	51	.....	49	.....	.....	.....
1919.....	23	108	61.3	1.821	111.62	103	185	190	22	4	21	42	8	2	1
1920.....	25	141	59.5	1.949	116.13	100	198	197	11	26	16	37	11	.....	.....
1922.....	25	119	58.4	1.416	82.35	98	144	140	5	61	3	25	5	.....	.....
Roughers:															
1907.....	15	252	61.5	.434	26.28	103	100	101	13	20	5	44	17	.....	.....
1908.....	15	242	62.5	.343	21.35	105	79	82	10	23	5	40	22	.....	.....
1909.....	15	243	62.4	.368	22.72	104	84	87	10	23	5	57	6	.....	.....
1910.....	25	425	61.0	.402	24.51	102	92	94	17	20	8	46	9	.....	.....
1911.....	26	403	60.5	.377	22.68	101	86	87	18	24	3	46	9	.....	.....
1912.....	26	408	60.2	.389	23.36	101	89	90	18	25	3	45	9	.....	.....
1913.....	26	407	59.8	.436	26.00	100	100	100	6	46	1	43	4	.....	.....
1914.....	57	385	58.8	.436	25.41	98	100	98	2	-65	.....	32	.....	.....	.....
1915.....	57	386	58.9	.438	25.76	98	100	99	2	62	.....	36	.....	.....	.....
1919.....	23	202	60.7	.933	56.63	102	214	218	21	10	10	46	13	.....	.....
1920.....	25	319	57.8	1.034	59.46	97	237	229	16	44	1	36	3	.....	.....
1922.....	25	288	57.3	.709	40.41	96	163	155	9	58	.....	27	6	.....	.....

* Less than 1 per cent.

132 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE A (8).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—BAR MILLS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—				
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84
Catchers:													
1907	11	69	62.5	\$0.442	\$27.68	108	99	108	42	1	36	20	
1908	11	70	62.0	.381	23.57	107	86	92	46		34	20	
1909	11	70	61.9	.400	24.93	107	90	97	46		54		
1910	20	115	60.2	.419	25.45	104	94	99	13	35	5	40	7
1911	20	111	59.9	.392	23.70	103	88	92	14	39		41	7
1912	20	110	59.7	.399	23.92	103	90	93	14	39		40	7
1913	44	222	58.1	.445	25.73	100	100	100	3	63		33	1
1914	57	293	58.6	.430	25.03	101	97	97	2	60		38	
1915	57	296	58.8	.432	25.35	101	97	99	2	60		38	
1919	23	187	60.6	.936	56.72	104	210	220	23	11	7	46	13
1920	25	217	57.9	1.022	58.68	100	230	228	19	38	1	38	4
1922	25	191	57.2	.725	41.33	98	163	161	10	59		22	9
Stranders:													
1907	13	175	59.5	.334	19.45	102	97	97	22	17	11	34	15
1908	13	174	59.7	.277	16.25	102	80	81	22	17	11	32	17
1909	13	174	59.7	.297	17.34	102	86	86	22	17	11	42	7
1910	21	272	60.6	.301	17.85	104	87	89	18	16	14	40	13
1911	22	262	59.8	.272	16.03	103	79	80	18	27	8	34	13
1912	22	266	59.6	.283	16.62	102	82	82	18	28	8	33	13
1913	42	491	58.3	.345	20.15	100	100	100		64		35	1
1914	56	635	58.4	.318	18.57	100	92	92	57	11	31	31	(*)
1915	56	615	58.1	.326	18.99	100	94	94	57	11	23	23	(*)
1919	23	381	59.5	.762	45.34	102	221	225	26	13	8	44	9
1920	25	525	57.6	.849	48.79	99	246	242	14	46	1	36	3
1922	25	474	56.6	.577	32.31	97	167	160	9	65		20	6
Finishers:													
1907	10	65	65.9	.309	20.45	111	88	98	12	14	48	26	
1908	10	63	66.4	.279	18.53	111	80	89	13	11	49	27	
1909	10	63	66.2	.300	19.85	111	86	96	13	10	68	10	
1910	17	111	64.0	.323	20.48	107	92	99	14	7	9	55	15
1911	19	121	62.8	.313	19.60	105	89	94	12	20	7	45	17
1912	21	137	62.0	.328	20.29	104	94	98	11	31	7	38	13
1913	40	182	59.6	.350	20.77	100	100	100		63		35	2
1914	54	223	60.0	.341	20.42	101	97	98		48	1	51	
1915	54	222	59.8	.352	20.95	101	101	101		48	1	51	
1919	22	123	61.6	.766	47.19	103	219	227	16	13	13	46	11
1920	24	177	60.0	.866	52.05	101	247	251	9	34	5	44	7
1922	25	165	57.9	.638	36.56	97	182	176	10	56	1	25	9
Hook-ups:													
1907	12	92	63.9	.268	17.30	107	92	100	10	3	9	52	26
1908	12	84	65.3	.225	14.70	110	77	85	4	5	17	42	33
1909	12	82	65.7	.241	15.82	110	83	91	4	5	10	57	24
1910	20	174	63.2	.272	17.13	108	93	99	16	6	11	43	25
1911	21	154	63.0	.250	15.66	106	86	90	14	24	6	44	23
1912	22	177	61.9	.254	15.74	104	87	91	12	24	8	36	20
1913	36	227	59.6	.291	17.32	100	100	100		46		48	5
1914	47	262	59.8	.268	16.03	100	92	93		48		52	
1915	47	245	60.3	.270	16.25	101	93	94		41		59	
1919	21	156	59.6	.641	38.20	100	220	221	22	20	13	32	13
1920	24	277	57.7	.771	43.83	97	265	253	18	35	1	37	9
1922	25	213	59.0	.516	30.17	99	177	174	15	46		28	12
Roll hands, other:													
1907	9	97	66.8	.278	18.53	106	88	93	6	4	4	40	45
1908	9	94	67.0	.255	16.97	106	81	85	6	4	4	46	45
1909	9	94	66.8	.266	17.65	106	84	85	6	4	4	44	45
1910	18	180	62.8	.295	18.35	99	93	92	22	10	4	44	20
1911	18	177	62.5	.273	16.97	99	86	85	22	13	2	42	20
1912	18	176	62.7	.287	17.97	99	91	90	20	13	2	44	20
1913	24	199	63.2	.316	20.02	100	100	100		24		76	
1914	37	240	63.2	.285	17.92	100	90	90		21		79	
1915	37	235	62.6	.291	18.23	99	92	91		26		74	
1919	18	174	62.1	.684	42.48	98	216	212	17	10	(*)	60	11
1920	20	352	60.7	.758	45.99	96	240	230	5	41	(*)	45	9
1922	20	353	59.5	.545	32.36	94	172	162	13	46		33	12

* Less than 1 per cent

TABLE A (8).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1907 TO 1922, BY OCCUPATIONS—BAR MILLS—Concluded.

Occupation and year.	Number of plants.	Number of employes.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—						
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.	84
Hotbed men:															
1907.....	15	302	63.3	\$0.189	\$11.98	105	87	92	4	21	14	43	19	.....
1908.....	15	299	63.2	.174	10.93	105	80	84	4	21	19	35	21	.....
1909.....	15	286	63.3	.180	11.00	105	83	84	4	22	15	54	5	.....
1910.....	25	500	62.9	.200	12.46	104	92	95	11	16	14	43	12	3	
1911.....	26	450	61.9	.188	11.61	103	87	89	12	24	6	48	9	.....
1912.....	26	461	61.7	.192	11.80	102	88	90	12	26	5	45	11	.....
1913.....	43	600	60.3	.217	13.06	100	100	100	7	43	2	45	4	.....
1914.....	56	714	60.3	.213	12.77	100	98	98	5	42	2	47	4	.....
1915.....	56	721	60.0	.216	12.83	100	100	98	14	34	.....	43	8	.....
1919.....	23	497	59.4	.545	32.37	99	251	248	27	15	8	41	9	.....
1920.....	24	727	58.8	.618	36.46	98	285	279	9	45	(²)	41	4	.....
1922.....	25	755	58.3	.439	25.48	97	202	195	7	56	.....	28	8	.....
Shearmen:															
1907.....	15	94	64.8	.249	16.20	108	89	97	.....	15	16	51	18	.....
1908.....	15	92	65.1	.216	14.10	108	77	84	.....	15	18	46	21	.....
1909.....	15	93	65.3	.225	14.72	108	80	88	.....	15	18	59	3	4
1910.....	25	156	63.3	.264	16.40	105	94	98	10	16	14	46	10	4	
1911.....	25	151	62.5	.254	15.55	104	90	93	10	23	12	45	11	.....
1912.....	24	156	62.4	.251	15.40	104	89	92	10	24	10	43	12	1	
1913.....	41	218	60.2	.281	16.74	100	100	100	5	42	9	41	2	1	
1914.....	54	263	60.5	.280	16.78	100	100	100	4	38	9	46	3	.....
1915.....	54	264	60.5	.293	17.56	100	104	105	11	31	6	47	5	.....
1919.....	22	145	60.9	.634	38.61	101	226	231	15	23	8	46	8	.....
1920.....	25	216	58.2	.752	43.99	97	268	263	14	42	4	37	3	.....
1922.....	24	178	59.2	.526	30.79	98	187	184	4	58	.....	25	10	3
Shearmen's helpers:															
1907.....	15	201	65.9	.174	11.46	105	83	88	.....	6	10	62	20	1
1908.....	15	172	66.2	.168	11.07	106	80	85	.....	7	13	59	17	5
1909.....	15	185	67.3	.169	11.32	107	81	87	.....	6	14	59	4	16
1910.....	23	355	64.7	.187	12.02	103	89	93	13	3	12	45	22	6	
1911.....	23	359	63.8	.178	11.28	102	85	87	13	8	10	50	18	.....
1912.....	23	358	63.9	.184	11.74	102	88	90	13	9	10	46	18	3	
1913.....	35	418	62.7	.209	12.98	100	100	100	4	24	6	61	3	2	
1914.....	48	487	62.7	.201	12.57	100	96	97	3	24	6	63	5	.....
1915.....	48	471	62.3	.203	12.66	99	97	98	10	20	4	60	7	.....
1919.....	19	399	62.3	.513	31.96	99	245	246	17	9	6	55	12	1	
1920.....	22	507	60.8	.615	37.39	97	294	288	7	40	3	48	1	1	
1922.....	23	610	60.8	.415	25.27	97	199	195	6	47	.....	35	10	3
Bundlers:															
1907.....	5	41	66.9	.202	13.53	109	93	101	.....	.....	.....	76	24	.....
1908.....	5	41	66.9	.174	11.68	109	80	87	.....	.....	.....	76	24	.....
1909.....	5	41	66.8	.186	12.42	109	85	93	.....	.....	.....	100	.....	.....
1910.....	6	77	66.1	.207	13.69	108	95	102	.....	.....	.....	100	.....	.....
1911.....	7	131	62.0	.197	12.20	101	90	91	.....	66	.....	34	.....	.....
1912.....	7	132	62.0	.193	11.94	101	89	89	.....	65	.....	35	.....	.....
1913.....	12	178	61.4	.218	13.38	100	100	100	.....	71	2	27	.....	.....
1914.....	13	178	63.9	.203	12.97	104	93	97	.....	43	2	55	.....	.....
1915.....	13	210	64.4	.208	13.38	105	95	100	.....	37	1	58	4	.....
1919.....	6	115	68.8	.529	36.40	112	243	272	.....	2	4	37	57	.....
1920.....	10	151	60.9	.555	33.80	99	255	253	.....	2	65	6	27	.....
1922.....	10	161	57.8	.382	22.29	94	175	167	.....	68	1	28	3	.....
Laborers:															
1907.....	10	296	68.3	.153	10.44	109	91	98	(²)	17	47	25	8	2
1908.....	10	227	64.8	.153	9.93	104	91	93	1	41	48	8	2
1909.....	10	324	67.8	.150	10.17	108	89	95	1	23	42	27	4	2
1910.....	15	511	67.8	.160	10.86	108	95	102	2	29	25	36	5	4
1911.....	17	390	65.5	.159	10.40	105	94	98	9	27	45	18	1	1
1912.....	21	536	65.0	.160	10.38	104	95	97	23	15	43	18	1	1
1913.....	42	891	62.5	.169	10.66	100	100	100	(²)	26	33	33	2	5
1914.....	54	1,039	63.3	.173	11.00	101	102	103	1	18	31	42	7	1	1
1915.....	54	1,029	62.9	.173	10.91	101	102	102	1	22	27	41	8	1	(²)
1919.....	21	1,058	66.1	.443	29.28	106	262	275	2	9	18	45	18	5	2
1920.....	20	816	65.1	.506	33.12	104	299	311	6	20	11	35	27	1
1922.....	23	806	64.5	.316	21.54	103	187	202	2	29	13	31	23	1	(²)

² Less than 1 per cent.

³ Including 1 per cent whose full-time hours per week were 84½, and less than 1 per cent whose full-time hours per week were 91

The number of employees reported in 1922 includes some duplications, or repeated employees, as stated in the general explanation of Table B (p. 15). Of the 4,950 employees reported in selected occupations for all districts combined there were 286 duplications, leaving 4,664 actually engaged, and the total of 6,717 employees shown for all occupations represents 6,399 individuals.

The gross number of employees reported, together with the net number of actual employees, for selected occupations and for all occupations, in each district and all districts combined, are shown in Table 15.

TABLE 15.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND ALL OCCUPATIONS, 1922, BY DISTRICTS—BAR MILLS.

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number.
Eastern.....	779	22	757	968	22	946
Pittsburgh.....	2,072	107	1,965	2,624	118	2,506
Great Lakes and Middle West.....	1,450	139	1,311	2,218	160	2,058
Southern.....	649	18	631	907	13	889
Total.....	4,950	286	4,664	6,717	318	6,399

The customary working time per week of employees in the bar-mill department has been classified, and the number and per cent of employees coming under each classification for the years 1907 to 1922 are shown in Table B (8).

The working time of employees in the bar-mill department shows a wide variation of days or turns per week—5 days, 6 days, and 7 days, with the many combinations thereof. However, in 1922, 47 per cent of all employees worked 6 days and 35 per cent worked 5 days and 6 days alternately.

When 1922 is compared with 1920, there were only a few slight changes in the working time of employees in selected occupations in this department.

The greatest changes in the working time are shown in the Eastern district, where, in 1922, 1 per cent of all employees worked 5 days per week as compared with 14 per cent in 1920. The per cent of employees working 5 days and 6 days alternately shows a decrease from 45 to 30 during the same years. The per cent working 6 days per week increased from 30 in 1920 to 57 in 1922.

TABLE B (8).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1907 TO 1922, BY YEARS—BAR MILLS.

[For explanation of this table see p. 15.]

District.	Year.	Number of plants.	Number of employ-ees. ¹	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—												
				5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.
EASTERN.																							
Selected occupations....	1907	3	313	1	242			70					(²)	77						22			
	1908	3	355	1	290			64					(²)	82						18			
	1909	3	357	1	290			66					(²)	81						19			
	1910	8	390	157	323			406				4	18	36						46		(²)	
	1911	8	331	1	455			375					(²)	55						45			
	1912	8	946	14	588			344					2	62						36			
	1913	12	1,387	57	912			410						55						30			
	1914	15	1,562	64	1,144		3	349		2	3			66					(²)	22		(²)	
	1915	15	1,543	63	1,130			348				2		73					(²)	23		(²)	
	1919	4	836	216	259			161					34	41						25			
	1920	6	867	110	404	100		248		5			13	47	12					29	1		
	1922	6	779	7	245	108		419					1	31	14					54			
All occupations.....	1914	15	1,851	69	1,207		3	554				7	4	65		(²)				30		1	(²)
	1915	15	1,876	70	1,211			573		12		10	4	63						31		1	(²)
	1920	6	950	133	425	100		287		5			14	45	11					30		1	(²)
	1922	6	968	9	292	112		553				2	1	30	12					5.			7

¹ The figures in this column for the years 1907 to 1915 represent the number of jobs and for the years 1919, 1920, and 1922 the actual number of men employed.

² Less than 1 per cent.

BAR MILLS.

TABLE B (8).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1907 TO 1922, BY YEARS—BAR MILLS—Concluded.

District.	Year.	Number of plants.	Number of employees.	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—													
				5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	5 days and 7 days alternately.	6 days and 7 days alternately.	6 days, 6 days, and 7 days in rotation.	6 days, 7 days, and 7 days in rotation.	7 days.	
PITTSBURGH.																								
Selected occupations....	1907	6	1,215	32	561	42	.....	521	8	34	.....	.....	.....	17	3	46	4	.....	43	1	3	.....	.....	1
	1908	6	1,060	58	455	42	.....	479	4	16	.....	.....	.....	6	6	43	4	.....	45	(?)	2	.....	.....	1
	1909	6	1,163	26	465	45	.....	579	4	18	.....	.....	.....	29	2	40	4	.....	50	(?)	2	.....	.....	3
	1910	10	2,185	18	676	45	.....	1,403	4	14	.....	.....	.....	25	1	31	2	.....	64	(?)	1	.....	.....	1
	1911	10	2,096	33	806	42	.....	1,188	4	16	.....	.....	.....	7	2	39	2	.....	57	(?)	1	.....	.....	(?)
	1912	10	2,193	37	967	42	.....	1,120	4	14	.....	.....	.....	9	2	44	2	.....	51	(?)	1	.....	.....	(?)
	1913	11	2,380	115	1,154	42	.....	700	.....	54	.....	297	9	9	5	48	2	.....	29	.....	2	.....	.....	(?)
	1914	14	2,833	105	1,388	42	.....	890	.....	38	.....	349	12	14	4	49	1	.....	31	.....	1	.....	.....	(?)
	1915	14	1,845	88	1,439	42	.....	1,242	.....	18	.....	12	.....	4	3	51	1	.....	44	.....	1	.....	.....	(?)
	1919	4	1,534	.....	417	.....	.....	1,032	.....	57	.....	.....	.....	28	.....	27	.....	.....	67	.....	4	.....	.....	.....
	1920	7	2,372	56	792	.....	.....	857	.....	11	.....	47	35	15	2	33	.....	.....	40	(?)	2	.....	.....	1
	1922	7	2,072	13	896	.....	.....	647	.....	21	.....	477	16	2	1	43	.....	.....	31	.....	1	.....	.....	(?)
All occupations.....	1914	14	3,250	162	1,461	42	.....	1,128	4	64	.....	349	12	28	5	45	1	.....	35	(?)	2	.....	.....	(?)
	1915	14	3,366	122	1,549	42	.....	1,562	4	56	.....	12	.....	15	4	46	1	.....	46	(?)	2	.....	.....	(?)
	1920	7	3,167	69	958	.....	.....	1,458	.....	11	.....	153	35	20	2	30	.....	.....	46	(?)	5	.....	.....	1
	1922	7	2,624	22	1,057	.....	.....	949	.....	.....	.....	75	.....	28	1	40	.....	.....	36	.....	3	.....	.....	1
GREAT LAKES AND MIDDLE WEST.																								
Selected occupations....	1907	6	850	10	421	.....	64	336	6	4	.....	.....	.....	9	1	50	.....	8	40	1	1	.....	.....	1
	1908	6	801	12	335	.....	48	385	6	6	.....	.....	.....	9	2	42	.....	6	48	1	1	.....	.....	1
	1909	6	795	4	340	.....	48	356	6	24	.....	.....	.....	11	1	44	.....	6	45	1	3	.....	.....	1
	1910	7	1,017	.....	.....	.....	49	651	6	8	.....	.....	.....	76	.....	22	.....	5	64	1	1	.....	.....	1
	1911	8	997	4	429	.....	45	5497	6	10	.....	.....	.....	6	6	43	.....	5	50	1	1	.....	.....	1
	1912	8	975	4	420	.....	53	454	6	22	.....	10	.....	6	(?)	43	.....	5	47	1	2	.....	.....	1
	1913	12	1,279	11	457	90	49	621	6	14	10	.....	.....	21	1	36	7	.....	49	(?)	1	.....	.....	1

Table C (8) presents the most significant facts relative to customary and actual working time, actual earnings per pay period, and earnings per hour of employees in 25 bar mills for the year 1922, by occupations and districts. In addition, for each occupation are shown the number of positions and the number of employees actually working during the pay period and also the time and earnings of the same employees during the same period at occupations other than the occupation specified.

Referring to the occupation of heaters, by way of illustration, 143 positions were filled by 169 actual employees during the pay period scheduled. The average turns per week of the employees working in these positions were 5.8, the average length of these turns were 10.4 hours, and the average full-time hours per week were 59.9. Of the 169 actual employees who worked as heaters 73, or 43 per cent, customarily worked under 60 hours per week, 87, or 51 per cent, worked "over 60 and under 72" hours, while only 9 employees worked "72 and under 84" hours per week. The average hourly earnings for heaters ranged from 66.1 cents in the Eastern district to 83.9 cents in the Pittsburgh district, while the average for all districts combined was 75.9 cents. The range for average full-time weekly earnings was from \$39.07 for the Eastern district to \$49.38 in the Southern district. While heaters in the Pittsburgh district have the highest average hourly earnings, they have next to the lowest full-time weekly earnings, due to the fact that their average full-time weekly hours are the lowest for any of the four districts reported.

Owing to the fact that a large number of the employees worked in more than one occupation during the pay period and in order to give the complete hours and earnings for them, separate figures are shown which include all occupations at which they worked. While 169 men were working as heaters, they averaged 94.3 hours per pay period and also averaged 12.4 hours at other work, making a total of 106.7 average hours per pay period in specified (heaters) and other occupations. During the 94.3 hours they worked as heaters they earned \$71.64, or 75.9 cents per hour. When the work of these men in all occupations is considered they earned \$78.01—that is, \$6.37 was earned in some other occupation than that of heater.

Average earnings per hour in this department ranged from 31.6 cents for laborers to \$1.416 for rollers, and the average actual hours worked ranged from 55.3 for laborers to 119.2 for roll engineers. In only 2 occupations, that of roll engineers and laborers, were any employees shown working 84 hours per week regularly and only 6 employees in the 2 occupations combined worked these hours.

Roll engineers worked the highest customary full-time hours per week of 69.1.

TABLE C (8).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—BAR MILLS—Continued.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.								Average full-time earnings per week.	Scheduled pay period (15 days).						
		Number.	Average customary full time of employ-ees in the positions.			Number.	Number whose customary full-time hours per week were—							Specified occupation.			Specified and other occupations.			
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72	Over 72 and under 84.		84	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Drag-downs:																				
Eastern.....	5	21	5.5	10.1	58.3	30	10	7	.....	13	.....	.....	\$24.21	73.7	\$31.68	\$0.430	94.2	\$42.84	\$0.454
Pittsburgh.....	6	47	5.7	10.5	60.1	76	.....	55	.....	21	.....	.....	27.23	69.1	31.28	.453	103.4	45.33	.438
G. L. and M. W.....	4	20	5.5	10.2	56.1	26	2	17	.....	7	.....	.....	35.79	77.2	49.24	.638	80.1	50.71	.633
Southern.....	5	22	5.9	11.1	65.5	29	.....	5	.....	11	13	.....	26.86	90.1	36.93	.410	106.4	43.96	.413
Total.....	20	110	5.7	10.5	59.7	161	12	84	.....	52	13	.....	27.98	75.0	35.27	.470	98.5	45.49	.462
Roll engineers:																				
Eastern.....	6	17	5.9	11.5	67.5	18	.....	2	.....	14	2	.....	27.07	121.9	48.86	.401	127.3	53.07	.417
Pittsburgh.....	7	41	6.1	11.2	68.3	48	8	20	8	12	31.08	105.9	48.21	.455	109.8	49.64	.452
G. L. and M. W.....	7	25	6.0	11.6	70.0	27	2	9	12	2	39.90	140.1	79.84	.570	140.1	79.84	.570
Southern.....	2	6	6.5	11.7	76.0	7	1	5	1	31.31	122.6	50.51	.412	140.9	56.00	.398
Total.....	22	89	6.1	11.4	69.1	100	2	10	43	23	19	3	32.75	119.2	57.03	.478	123.3	58.86	.477
Rollers:																				
Eastern.....	6	23	5.8	10.1	58.5	26	3	14	.....	9	.....	.....	62.19	95.3	101.35	1.063	105.5	107.69	1.021
Pittsburgh.....	7	50	5.9	9.6	56.7	54	.....	43	3	8	.....	.....	83.35	99.0	145.53	1.470	104.9	150.26	1.432
G. L. and M. W.....	7	22	5.7	10.3	58.9	22	3	10	1	6	2	.....	98.72	105.7	177.17	1.676	105.7	177.17	1.676
Southern.....	5	15	5.8	10.8	63.1	17	.....	6	.....	7	4	.....	88.84	101.9	143.50	1.408	105.8	145.93	1.380
Total.....	25	110	5.8	10.0	58.4	119	6	73	4	30	6	.....	82.35	99.9	141.44	1.416	105.3	145.32	1.380
Roughers:																				
Eastern.....	6	41	5.7	10.2	58.0	50	6	24	.....	20	.....	.....	36.42	84.0	52.74	.628	100.6	62.59	.622
Pittsburgh.....	7	96	5.9	9.5	56.1	139	.....	110	.....	29	.....	.....	40.50	74.7	53.95	.722	101.8	67.99	.668
G. L. and M. W.....	7	50	5.6	9.6	53.8	56	19	25	.....	6	6	.....	44.65	89.7	74.45	.830	100.5	80.63	.803
Southern.....	5	34	5.7	11.3	64.8	43	9	22	12	39.20	91.8	55.48	.605	100.4	60.40	.601	
Total.....	25	221	5.8	9.9	57.3	288	25	168	77	18	40.41	81.8	57.96	.709	101.1	68.38	.676	

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Catchers:																				
Eastern.....	6	29	5.7	9.9	56.9	40	4	25	11	34.48	74.1	44.86	.606	101.1	58.36	.577
Pittsburgh.....	7	56	5.9	9.8	57.6	79	55	24	43.32	76.3	57.32	.752	99.0	70.06	.708
G. L. and M. W.....	7	44	5.6	10.0	54.1	48	15	24	.....	4	5	.....	.....	43.55	91.2	73.39	.805	96.0	75.96	.792
Southern.....	5	17	5.9	10.8	64.3	24	.....	8	.....	3	13	.....	.....	41.80	85.0	55.24	.650	107.5	66.18	.616
Total.....	25	146	5.8	10.0	57.2	191	19	112	.....	42	18	.....	.....	41.33	80.7	58.49	.725	99.7	68.61	.688
Stranders:																				
Eastern.....	6	71	5.7	10.0	56.9	90	12	51	.....	27	.....	.....	.....	27.26	75.0	35.92	.479	97.1	47.38	.488
Pittsburgh.....	7	150	5.9	9.7	56.7	245	.....	185	.....	60	.....	.....	.....	32.32	66.1	37.07	.570	92.1	50.37	.547
G. L. and M. W.....	7	81	4.5	9.7	54.6	102	33	52	.....	4	13	.....	.....	38.17	85.2	59.51	.099	98.1	65.91	.672
Southern.....	5	24	6.0	10.3	61.3	37	.....	18	.....	4	15	.....	.....	28.44	69.3	32.20	.464	88.3	40.78	.462
Total.....	25	326	5.5	9.8	56.6	474	45	306	.....	95	28	.....	.....	32.32	72.2	41.61	.577	94.0	52.40	.557
Finishers:																				
Eastern.....	6	20	5.7	10.2	58.1	27	4	12	.....	11	.....	.....	.....	31.32	73.0	39.39	.539	96.7	53.78	.556
Pittsburgh.....	7	48	5.9	9.7	56.8	65	.....	50	.....	15	.....	.....	.....	38.00	82.3	55.06	.669	104.8	67.44	.643
G. L. and M. W.....	7	38	5.6	11.0	56.3	47	12	22	.....	1	9	3	.....	41.94	86.6	64.49	.745	95.4	69.65	.730
Southern.....	5	17	5.9	11.0	64.4	26	.....	8	.....	6	12	.....	.....	28.66	81.7	36.34	.445	103.1	48.35	.469
Total.....	25	123	5.8	10.4	57.9	165	16	92	.....	1	41	15	.....	36.56	81.9	52.23	.638	100.5	62.82	.625
Hookups:																				
Eastern.....	6	29	5.8	10.3	59.9	43	4	21	.....	18	.....	.....	.....	25.10	69.7	29.23	.419	102.7	43.61	.424
Pittsburgh.....	7	53	5.7	10.4	59.1	77	.....	49	.....	28	.....	.....	.....	30.26	78.5	40.19	.512	97.3	48.71	.498
G. L. and M. W.....	7	50	5.8	9.9	55.5	66	27	20	.....	11	8	.....	.....	33.47	80.7	48.64	.603	95.4	55.59	.595
Southern.....	5	18	5.9	11.3	66.7	27	.....	7	.....	3	17	.....	.....	29.95	84.4	37.92	.449	109.0	50.09	.460
Total.....	25	150	5.8	10.3	59.0	213	31	97	.....	60	25	.....	.....	30.17	78.1	40.31	.516	98.9	49.99	.506
Roll hands, other:																				
Eastern.....	4	12	5.5	10.2	56.9	16	4	5	.....	7	.....	.....	.....	23.22	71.1	29.01	.408	99.6	42.06	.422
Pittsburgh.....	7	88	5.9	9.6	56.3	160	.....	136	.....	24	.....	.....	.....	34.85	61.6	38.16	.619	95.7	57.73	.603
G. L. and M. W.....	7	67	5.9	10.5	60.9	135	42	20	.....	51	22	.....	.....	31.24	55.6	28.52	.513	72.0	36.92	.508
Southern.....	2	23	5.8	12.0	69.1	42	.....	.....	.....	23	19	.....	.....	29.92	72.2	31.26	.433	88.5	38.99	.440
Total.....	20	190	5.9	10.2	59.5	353	46	161	.....	105	41	.....	.....	32.36	61.0	33.24	.545	86.2	46.83	.543
Hotbed men:																				
Eastern.....	6	59	5.8	9.9	57.1	106	21	46	.....	39	.....	.....	.....	22.67	57.6	22.83	.397	78.0	31.47	.403
Pittsburgh.....	7	185	5.9	9.8	57.1	366	.....	265	.....	101	.....	.....	.....	25.64	54.8	24.06	.449	82.2	36.75	.447
G. L. and M. W.....	7	121	5.6	10.3	58.5	197	32	81	.....	57	27	.....	.....	27.26	70.9	33.03	.466	95.3	43.40	.455
Southern.....	5	48	6.0	10.9	63.9	86	.....	32	.....	17	37	.....	.....	24.22	64.9	24.59	.379	72.6	27.93	.385
Total.....	25	413	5.8	10.1	58.3	755	53	424	.....	214	64	.....	.....	25.48	60.5	26.55	.439	84.0	36.74	.438
Shearmen:																				
Eastern.....	5	23	5.7	9.5	54.5	34	3	28	.....	3	.....	.....	.....	24.63	66.6	30.11	.452	94.3	41.92	.445
Pittsburgh.....	7	49	5.9	9.7	56.6	66	.....	48	.....	18	.....	.....	.....	33.85	80.3	48.00	.598	99.8	55.88	.560
G. L. and M. W.....	7	43	5.8	10.8	63.2	52	4	17	.....	15	11	5	.....	33.62	101.2	53.85	.532	123.3	63.58	.516
Southern.....	5	17	5.9	10.7	62.6	26	.....	10	.....	9	7	.....	.....	25.42	80.5	32.65	.406	99.6	40.41	.406
Total.....	24	132	5.8	10.2	59.2	178	7	103	.....	45	18	5	.....	30.79	83.8	44.05	.526	105.6	53.20	.504

Table D (8) shows the number of employees and the average and classified earnings per hour for roughers and hotbed men, in 1922, by districts and all districts combined.

Of the 288 roughers, 261, or 91 per cent, earned 50 cents per hour, or more, and 27, or 9 per cent, earned less than that amount. The Pittsburgh district shows the widest range of hourly earnings, from 30 cents to \$1.25.

The average hourly earnings for the 755 hotbed men were 43.9 cents. Seventy-six per cent (571) earned less than 50 cents per hour, and 184, or 24 per cent, earned 50 cents or over.

TABLE D (8).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS—BAR MILLS.

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—											\$1 and under \$1.25
			Under 20 cts.	20 and under 25 cts.	25 and under 30 cts.	30 and under 35 cts.	35 and under 40 cts.	40 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.	70 and under 80 cts.	80 and under 90 cts.	90 cts. and under \$1.	
ROUGHERS.														
Eastern.....	50	\$.628						1	29	10	4	2	4	.....
Pittsburgh.....	139	.722				2	1	9	23	24	44	22	5	9
Great Lakes and Middle West.....	56	.830						4	4	4	11	13	11	9
Southern.....	43	.605				5		5	2	20	8	2	1	.....
Total.....	288	.709				7	1	19	58	58	67	39	21	18
HOTBED MEN.														
Eastern.....	106	.397		4	11	25	17	31	16	1	1			.....
Pittsburgh.....	366	.449		9	4	20	151	95	47	23	14	2	1	.....
Great Lakes and Middle West.....	197	.466				16	66	48	42	17	6	1	1	.....
Southern.....	86	.379	5	6	12	19	10	22	10	2				.....
Total.....	755	.439	5	19	27	80	244	196	115	43	21	3	2	.....

Customary turns per week, hours per turn, and full-time hours per week of those employees who regularly worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (8) for the bar-mill department. As stated in the general explanation of this table (p. 17) data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

144 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE E (8).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BAR MILLS.

[This table includes only employees who worked but one combination of customary days and hours during pay period. For explanation of table, see p. 17.]

DAY TURNS.

Customary turns and hours worked.										Number of employees who worked each specified combination of customary turns and hours, by districts.				
Day turns.					Night turns.					East-ern.	Pitts-burgh.	Great Lakes and Middle West.	South-ern.	Total.
Turns per week.	Hours.				Turns per week.	Hours.								
	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.		Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.					
7	12	12	12	84										
7	12	12	10	82								5	6	11
7	12	7	7	74									1	1
6	12	7		67									2	2
7	11	11	12	78									1	1
7	11	11	11	77								1	1	1
7	10	10	10	70							8		1	9
7	10	9	10	69							6			6
7	10	5½	10	65½						2				2
7	10	5	5	60									2	2
6	12	12	12	72								4		4
6	12	12		72						3		13	19	35
6	12	11		71							9			9
6	12	10		70								57		57
6	12	9		69						189	15	28		232
6	12	8		68								11		11
6	12	6		66						15				15

NIGHT TURNS.

.....	.....	.....	.....	.....	7	12	12	12	84	.....	.....	.....	4	4
.....	.....	.....	.....	.....	7	12	6	12	78	.....	.....	.....	1	1
.....	.....	.....	.....	.....	7	10	10	10	70	.....	1	.....	.....	1
.....	.....	.....	.....	.....	6	13	.....	13	78	.....	1	.....	.....	1
.....	.....	.....	.....	.....	6	12	12	12	72	.....	.....	6	.....	6
.....	.....	.....	.....	.....	6	12	12	.....	72	.....	.....	.....	8	8
.....	.....	.....	.....	.....	6	12	.....	12	72	.....	3	.....	26	29
.....	.....	.....	.....	.....	6	12	9	12	69	.....	.....	2	.....	2
.....	.....	.....	.....	.....	6	12	9	.....	69	.....	.....	6	.....	6
.....	.....	.....	.....	.....	5	13	.....	.....	65	.....	1	1	2	8
.....	.....	.....	.....	.....	5	12½	.....	.....	62½	.....	3	.....	.....	3
.....	.....	.....	.....	.....	5	12	.....	.....	60	.....	1	6	2	33

TABLE E (8).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—BAR MILLS—Continued.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.					
Day turns.					Night turns.				East-ern.	Pitts-burgh.	Great Lakes and Middle West.	South-ern.	Total.	
Turns per week.	Hours.				Turns per week.	Hours.								
	Mon-day to Fri-day.	Sat-ur-day.	Sun-day.	Per week.		Mon-day to Fri-day.	Sat-ur-day.	Sun-day.						Per week.
7	12	12	12	84	7	12	12	12	84			11		11
7	12	12	12	84	6	12	12	12	72			4		4
7	12	12	12	84	6	12	12	12	72			10		10
7	12	12	12	84	5	12	12	12	60			1		1
7	12	12	6	78	6	12	12	12	72				4	4
7	11½	11½	11½	80½	6	12½	12½	12½	75			15		15
7	11	11	12	78	5	12½	12	12	62½			2		2
7	11	11	11	77	6	13	13	13	78			4		4
7	10½	10½	12	75	5	12	12	12	60			4		4
7	10½	10½	10½	73½	7	13½	13½	13½	94½			3		3
7	10½	9	6	67½	7	12	12	6	78				1	1
7	10	10	10	70	7	14	14	14	98		8			8
7	10	10	10	70	6	10	10	10	60		30			30
7	10	10	9½	69½	6	14	14	14	84		5			5
7	10	9	10	69	6	10	10	10	60		1			1
7	9½	9½	12	69	5	11	11	11	55			7		7
7	8	8	8	56	7	8	8	8	56		11			11
6	12	12	12	72	6	12	12	12	72			31		31
6	12	12	12	72	7	12	12	12	84				2	2
6	12	12	12	72	7	12	12	12	84			12		12
6	12	12	10	70	6	12	12	12	72					2
6	12	12	12	72	6	12	12	12	72			13		13
6	12	12	12	72	6	12	12	12	72			220	206	426
6	12	12	12	72	6	12	12	12	72		92	18		110
6	12	12	12	72	5	12	12	12	60	4		24	167	195
6	12	12	11	71	6	12	12	12	72		68			68
6	12	12	10	70	6	12	12	12	72			7		7
6	12	12	10	70	5	12	12	12	60			4		4
6	12	9	9	69	6	12	12	12	72			1		1
6	12	9	9	69	6	12	9	9	69			206		206
6	12	9	9	69	5	12	12	12	60		340			340
6	12	8	8	68	5	12	12	12	60			303		303
6	12	8	8	66	5	12	12	12	60	4				4
6	11½	8½	8½	66	5	12½	12½	12½	62½	208				208
6	11½	8	8	65½	6	12½	12½	12½	75			6		6
6	11	11	11	66	7	11	11	11	77			3		3
6	11	11	11	66	6	13	13	13	78		7			10
6	11	11	11	66	6	13	13	13	78		1			10
6	11	11	11	66	5	12½	12½	12½	62½			5		5
6	11	10	10	65	6	13	13	13	78	6				6
6	11	10	10	65	6	13	12	12	77		8			8
6	11	8½	8½	63½	5	13	13	13	65		2			2
6	11	8	8	63	5	12	12	12	60			1		1
6	11	7½	7½	62½	5	13	13	13	65		8			8
6	10½	10½	12	64½	6	12	12	12	72		2			2
6	10½	10½	10½	63	7	13½	13½	13½	94½			11		11
6	10½	10½	10½	63	7	12½	12½	12½	87½					3
6	10½	10½	10½	63	6	12½	12½	12½	75			7		7
6	10½	10½	10½	63	5	12	12	12	60			1		1
6	10	10	10	60	7	14	8	14	92		5			5
6	10	10	10	60	6	14	14	14	84		82	35		117
6	10	10	10	60	6	13	13	13	80½		57			57
6	10	10	10	60	6	13	13	13	78		27			27
6	10	9	9	59	7	10	11	11	72		7			7
6	10	9	9	59	7	10	11	10	71		15			15
6	10	9	9	59	7	10	10	11	71		5			5
6	8	8	8	48	7	8	8	8	56					5
6	8	8	8	48	6	8	8	8	48		396			396

TABLE E (8).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—*BAR MILLS*—Concluded.

SUMMARY.

Item.	Eastern district.	Pittsburgh district.	Great Lakes and Middle West district.	Southern district.	Total.	Per cent of employees who worked but one combination of days and hours.
Total bar mill employees.....	946	2,506	2,058	889	6,399	.....
Employees who worked one combination of days and hours only.....	906	2,215	1,870	864	5,855	100
7-day week or straight or average day of 12 or more hours.....	439	1,224	1,123	492	3,278	56
All or part of the time.....	2	23	20	17	62	1
7-day week all of the time.....	0	475	76	8	559	10
Straight or average day of 12 or more hours all of the time.....	15	198	437	477	1,127	19
Straight or average day of 12 or more hours part of the time.....	422	546	682	12	1,662	28
7-day week and straight or average day of 12 or more hours all of the time.....	0	8	19	10	37	1

Of the total number of bar-mill employees 5,855 worked but one combination of customary days and hours. Of these 5,855 employees, 3,278, or 56 per cent, regularly worked 7 days per week or a straight or average day of 12 or more hours all or part of the time, 398 working days only, 115 working nights only, and 2,765 alternating between day and night work. Nineteen per cent (1,127) worked a straight or average day of 12 or more hours all of the time, and only 1 per cent (37) regularly worked 7 days per week and a straight or average day of 12 or more hours all of the time.

SHEET MILLS.

The 1922 survey includes 14 representative sheet mills which employed 9,242 men in all occupations. Of the total number of employees reported, 5,785 are included in the principal productive occupations for which separate figures are given. Data were first obtained for this department in 1910 and comparative figures are presented for the period 1910 to 1922.¹

Considering the principal productive occupations as a whole, average full-time hours per week in 1922 were 1 per cent greater than in 1920, 3 per cent less than in 1917, the highest point of customary working time in this department, and the same as in 1913. Average hourly earnings in 1922, while still high as compared with any year from 1910 to 1915, have decreased 36 per cent from the earnings of 1920, 24 per cent from those of 1919, and 18 per cent from those of 1917. Full-time weekly earnings followed very closely the course of hourly earnings, as full-time hours per week were subject to only slight variations. The average earnings per hour in 1922 for the department as a whole, including all occupations, were 69.4 cents, or 33 per cent less than in 1920.

The most significant facts concerning average hours and average earnings for each of the 18 principal productive occupations in this department are shown in Table A (9). Comparative figures are presented for 13 of the occupations for the years 1910 to 1922, the other 5 occupations having been added at different times during that period. The custom of level-handed work (two employees dividing the work and pay of one or more occupations evenly) has been increasing in recent years, and sheet heaters, level handed, were included in the bureau's reports for 1913. In 1920 rollers, level handed, and openers, level handed, were also added. However, not all of the level-handed work in selected occupations has been included, as there are many working combinations which are of local interest only and not general to the industry. As hot-mill crews in sheet mills work in 8-hour shifts, 3 shifts per day, and usually either 5, 5 and 6, or 5, 6, and 6 days per week in rotation, the average full-time hours per week of employees in selected occupations in this department has been subject to but slight variation, since the large majority of the employees are hot-mill workers.

Average earnings per hour in each of the 18 selected occupations were higher in 1922 than in any year from 1910 to 1915, but in most instances have decreased considerably from the earnings of 1917, 1919, and 1920. In 1910 the average hourly earnings for laborers were 16.4 cents, as compared with 19 cents in 1913, 33.1 cents in 1917, 46.2 cents in 1919, and 53.6 cents in 1920. In 1922 the average dropped to 35.6 cents, or 34 per cent less than in 1920. The movement in full-time weekly earnings was approximately the same as in hourly earnings, as the variations in full-time hours were very slight as compared with the fluctuations in earnings per hour.

¹ No data available for 1916, 1918, and 1921.

In 15 of the 18 selected occupations the employees in 1922 all customarily worked 48 hours per week or less, and in 12 of those 15 occupations the full-time hours were never more than 48 hours per week in any year from 1910 to 1922. No 84-hour week work has been reported in any selected occupation since 1915.

Index numbers for full-time hours per week, earnings per hour, and full-time weekly earnings are also contained in Table A (9). These are simply percentages computed from the averages presented in the table, using the average for 1913 as the base, or 100 per cent. The index numbers for this department as a whole (all selected occupations combined) are shown on page 4.

TABLE A (9).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—SHEET MILLS.¹

[For explanation of this table, see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—									
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84					
Pair heaters:																		
1910.....	9	210	42.7	\$0.466	\$19.89	100	86	86	100									
1911.....	9	255	42.7	.502	21.42	100	92	92	100									
1912.....	9	249	42.7	.517	22.06	100	95	95	100									
1913.....	13	336	42.8	.543	23.23	100	100	100	100									
1914.....	15	399	42.8	.540	23.10	100	99	99	100									
1915.....	15	354	42.8	.518	22.17	100	95	95	100									
1917.....	8	276	43.7	1.038	45.48	102	191	195	100									
1919.....	11	382	43.4	1.046	45.40	101	193	195	100									
1920.....	13	521	43.4	1.386	60.13	101	255	259	100									
1922.....	14	576	43.3	.890	37.84	101	162	163	100									
Rollers:																		
1910.....	9	215	42.7	1.242	52.98	100	84	84	100									
1911.....	9	259	42.7	1.380	58.89	100	93	93	100									
1912.....	9	252	42.7	1.416	60.41	100	96	96	100									
1913.....	13	335	42.8	1.476	63.21	100	100	100	100									
1914.....	15	394	42.8	1.431	61.20	100	97	97	100									
1915.....	15	348	42.9	1.280	54.80	100	87	87	100									
1917.....	8	276	43.7	2.591	113.47	102	175	180	100									
1919.....	11	342	43.5	2.536	110.32	102	172	175	100									
1920.....	13	464	43.4	2.976	129.10	101	202	204	100									
1922.....	14	501	43.3	1.895	82.01	101	128	130	100									
Rollers, level handed:																		
1920.....	5	44	42.7	1.516	64.73				100									
1922.....	3	39	44.5	1.069	42.57				100									
Rollers' helpers or finishers:																		
1912.....	6	115	42.7	.474	20.21	100	94	94	100									
1913.....	8	171	42.7	.503	21.48	100	100	100	100									
1914.....	10	264	42.9	.555	23.77	100	110	111	100									
1915.....	10	233	42.9	.461	19.77	100	92	92	100									
1919.....	10	271	43.0	1.010	43.43	101	201	202	100									
1920.....	11	437	42.8	1.092	46.80	100	217	218	100									
1922.....	11	487	42.9	.721	30.90	100	143	144	100									
Roughers:																		
1910.....	9	215	42.7	.558	23.82	100	87	87	100									
1911.....	9	255	42.7	.603	25.71	100	94	94	100									
1912.....	9	252	42.7	.616	26.29	100	96	96	100									
1913.....	13	336	42.8	.642	27.49	100	100	100	100									
1914.....	15	399	42.8	.648	27.73	100	101	101	100									
1915.....	15	353	42.8	.619	26.51	100	96	96	100									
1917.....	8	276	43.7	1.285	56.27	102	200	205	100									
1919.....	11	367	43.5	1.289	56.07	102	201	204	100									
1920.....	13	528	43.4	1.584	68.69	101	247	250	100									
1922.....	14	590	43.3	.994	42.83	101	155	156	100									

¹This table was published in the Monthly Labor Review for April, 1923.

TABLE A (9).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—SHEET MILLS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—										
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84						
Catchers:																			
1910.....	9	215	42.7	\$0.544	\$23.19	100	87	86	100										
1911.....	9	258	42.7	.587	25.03	100	93	93	100										
1912.....	9	252	42.7	.603	25.71	100	96	96	100										
1913.....	13	336	42.8	.629	26.92	100	100	100	100										
1914.....	15	399	42.8	.636	27.23	100	101	101	100										
1915.....	15	350	42.8	.595	25.49	100	95	95	100										
1917.....	8	276	43.7	1.256	54.92	102	200	204	100										
1919.....	11	407	43.6	1.199	52.28	102	191	194	100										
1920.....	13	552	43.4	1.532	66.43	101	244	247	100										
1922.....	14	589	43.3	.961	41.54	101	153	154	100										
Matchers:																			
1910.....	9	210	42.7	.387	16.53	100	86	86	100										
1911.....	9	255	42.7	.418	17.83	100	93	93	100										
1912.....	9	249	42.7	.429	18.30	100	96	96	100										
1913.....	13	336	42.8	.448	19.16	100	100	100	100										
1914.....	15	399	42.8	.484	20.70	100	108	108	100										
1915.....	15	354	42.8	.475	20.34	100	106	106	100										
1917.....	8	276	43.7	.946	41.39	102	211	216	100										
1919.....	11	398	43.5	.981	42.67	102	219	223	100										
1920.....	13	642	43.4	1.225	53.12	101	273	277	100										
1922.....	14	743	43.3	.791	34.04	101	177	178	100										
Doublers:																			
1910.....	9	210	42.7	.372	15.86	100	87	86	100										
1911.....	9	252	42.7	.401	17.10	100	93	93	100										
1912.....	9	246	42.7	.412	17.58	100	96	96	100										
1913.....	13	336	42.8	.429	18.34	100	100	100	100										
1914.....	15	399	42.8	.462	19.75	100	108	108	100										
1915.....	15	354	42.8	.453	19.42	100	106	106	100										
1917.....	8	276	43.7	.906	39.57	102	211	216	100										
1919.....	11	437	43.4	.921	39.97	101	215	218	100										
1920.....	13	658	43.4	1.206	52.32	101	281	285	100										
1922.....	14	731	43.3	.775	33.42	101	181	182	100										
Sheet heaters:																			
1910.....	9	215	42.7	.883	37.68	100	89	89	100										
1911.....	9	259	42.7	.911	38.88	100	92	91	100										
1912.....	9	253	42.7	.949	40.51	100	96	95	100										
1913.....	12	307	42.8	.993	42.50	100	100	100	100										
1914.....	14	364	42.8	.966	41.34	100	97	97	100										
1915.....	14	324	42.9	.868	37.19	100	87	88	100										
1917.....	8	276	43.7	1.879	82.36	102	189	189	100										
1919.....	11	332	43.5	1.849	80.43	102	186	189	100										
1920.....	13	424	43.4	2.151	93.29	101	217	220	100										
1922.....	14	499	43.3	1.381	59.26	101	139	139	100										
Sheet heaters, level handed:																			
1913.....	2	14	42.7	.707	30.17	100	100	100	100										
1914.....	2	56	42.7	.762	32.65	100	108	108	100										
1915.....	2	34	42.7	.696	29.27	100	97	97	100										
1919.....	3	15	42.7	1.316	56.19	100	186	186	100										
1920.....	8	94	43.0	1.661	71.45	101	235	237	100										
1922.....	7	90	43.3	.995	41.33	101	141	137	100										
Sheet heaters' helpers:																			
1910.....	8	174	42.7	.377	16.07	100	78	78	100										
1911.....	8	215	42.7	.436	18.59	100	90	90	100										
1912.....	8	208	42.7	.439	18.71	100	91	90	100										
1913.....	10	230	42.9	.483	20.70	100	100	100	100										
1914.....	13	309	42.8	.485	20.73	100	100	100	100										
1915.....	13	275	42.9	.458	19.60	100	95	95	100										
1917.....	6	216	43.2	.859	37.21	101	177	180	100										
1919.....	11	286	43.1	.926	39.91	100	192	193	100										
1920.....	12	367	42.7	1.140	48.68	100	236	235	100										
1922.....	13	454	42.8	.727	31.13	100	151	150	100										

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TABLE A (9).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS, AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—SHEET MILLS—Concluded.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Shearmen:														
1910.....	7	85	46.0	\$0.689	\$30.79	107	85	88	86			14		
1911.....	7	104	44.9	.722	32.86	105	89	94	90			10		
1912.....	7	103	44.9	.768	34.67	105	94	99	90			10		
1913.....	8	114	42.9	.814	34.90	100	100	100	100					
1914.....	10	136	42.9	.860	36.84	100	106	106	100					
1915.....	10	115	43.0	.827	35.48	100	102	102	100					
1917.....	7	149	43.5	1.399	60.90	101	172	175	100					
1919.....	11	221	43.3	1.463	63.35	101	180	182	100					
1920.....	8	221	43.5	1.891	82.22	101	232	236	100					
1922.....	12	190	43.3	1.175	50.90	101	144	146	100					
Shearmen's helpers:														
1910.....	6	62	46.4	.261	11.99	108	104	111	84			16		
1911.....	6	83	44.9	.308	13.59	105	123	126	90			10		
1912.....	6	77	45.1	.290	12.88	105	116	120	90			10		
1913.....	7	111	42.9	.251	10.77	100	100	100	100					
1914.....	9	128	42.9	.282	12.09	100	112	112	100					
1915.....	9	146	43.8	.242	10.59	102	96	98	95	2		3		
1917.....	6	120	43.2	.533	23.06	101	220	214	100					
1919.....	11	196	43.7	.682	29.80	102	272	277	98			2		
1920.....	7	155	43.7	.983	42.91	102	392	398	100					
1922.....	12	265	43.4	.642	27.69	101	256	257	100					
Openers:														
1910.....	7	138	46.0	.274	12.57	101	98	100	86			14		
1911.....	7	167	45.2	.275	12.35	100	99	98	89			11		
1912.....	7	180	45.8	.289	13.04	101	104	104	87			13		
1913.....	6	168	45.4	.279	12.56	100	100	100	88			12		
1914.....	9	200	42.8	.282	12.06	94	101	96	100					
1915.....	9	180	43.6	.273	11.93	96	98	95	96	2		2		
1917.....	6	175	43.3	.662	28.70	95	237	229	100					
1919.....	10	266	43.6	.656	28.60	96	235	228	99			1		
1920.....	6	198	44.0	1.188	52.13	97	426	415	100					
1922.....	11	415	43.5	.732	31.27	96	262	249	100					
Openers, level handed:														
1920.....	1	40	42.7	1.114	47.57				100					
1922.....	4	45	42.7	.607	25.30				100					
Pickers:														
1910.....	4	50	70.8	.181	12.75	104	84	88		10		90		
1911.....	5	58	71.2	.177	12.54	105	82	87		9	16	69		7
1912.....	5	39	71.7	.186	13.23	105	86	91		13	15	56		15
1913.....	8	71	68.1	.216	14.49	100	100	100	11	7	8	73		
1914.....	9	121	69.6	.211	14.55	102	98	100	7	4	8	81		
1915.....	9	126	69.8	.209	14.44	102	97	100	6	3	6	84		
1919.....	7	67	68.3	.600	40.98	100	278	283		6	24	70		
1920.....	7	65	51.5	.792	41.13	76	367	284		7	5	17	2	
1922.....	11	106	65.9	.508	33.51	97	235	231		8	7	42	5	31
Feeders:														
1920.....	5	41	56.8	.704	39.39				41	20	39			
1922.....	8	119	61.4	.500	30.64				32	7	10	30	9	12
Laborers:														
1910.....	9	347	63.1	.164	10.35	97	86	84		4	64	13	16	1
1911.....	9	361	63.6	.166	10.54	98	87	86		5	53	25	16	3
1912.....	9	354	63.5	.169	10.72	98	89	87		4	54	26	15	1
1913.....	13	351	64.9	.190	12.28	100	100	100		17	37	13	23	4
1914.....	15	378	65.9	.188	12.37	102	99	101		10	26	32	26	3
1915.....	15	394	65.0	.188	12.21	100	99	99		10	32	30	18	8
1917.....	8	656	61.8	.331	20.46	95	174	167		73	26	2		
1919.....	9	270	64.5	.462	29.80	99	243	243		8	51	13	28	
1920.....	11	866	59.5	.536	32.01	92	282	261		32	10	20	11	22
1922.....	13	808	65.2	.356	23.06	100	187	188		29	31	8	32	

The number of employees reported in 1922 is not always the actual number of employees, as the totals in most cases contain some duplications, or repeated employees, as has been explained in the general description of Table B (p. 15). Of the 6,082 employees reported in selected occupations for all districts combined, 5,785 were actually engaged, and the 9,661 employees shown in all occupations represents 9,242 actual individuals.

The number of employees reported, together with the net number of actual employees for selected and all occupations in each district and all districts combined, are shown in Table 16.

TABLE 16.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND ALL OCCUPATIONS, 1922, BY DISTRICTS—SHEET MILLS.

District.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number	Number reported.	Number of duplications.	Actual Number.
Pittsburgh.....	3,528	176	3,352	5,798	250	5,548
Great Lakes and Middle West....	2,554	121	2,433	3,863	169	3,694
Total.....	6,082	297	5,785	9,661	419	9,242

The customary working time per week of employees in the sheet-mill department has been classified, and the number and per cent of employees coming under each classification, for the years 1910 to 1922, are shown in Table B (9).

In all of the plants covered in the sheet-mill department the regular-turn employees, comprising the employees in most of the selected occupations, were divided into three crews, each working eight hours per turn. The employees shown under the heading "5 days, 5 days, and 6 days in rotation" work five turns per week, Monday to Friday, inclusive, with one crew working an extra turn Saturday morning. Each crew advances one turn each week, thus giving to each the extra Saturday turn every third week. Those working 5 days, 6 days, and 6 days in rotation follow the same plan, except that two turns are worked on Saturday instead of one.

Considering the selected occupations alone, considerable change is seen in the later years in the percentage of employees working in the various groups. These changes are due to a change of custom in a few plants; that is, working two shifts on Saturday instead of only one, as in the earlier years.

Laborers and other unskilled employees in sheet mills frequently work six days regularly. This fact is reflected in the percentage of employees shown in this column for all occupations.

When the percentage of employees working each specified number of turns per week in 1922 is compared with like data for 1920, there are only slight changes noted, the greatest change being in the per cent of employees in the selected occupations of the Great Lakes and Middle West district who regularly work 5 days, 5 days, and 6 days in rotation. In 1920, 56 per cent of the employees worked these turns, as compared with 62 per cent in 1922.

TABLE B (9).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1910 TO 1922, BY YEARS—SHEET MILLS.

[For explanation of this table see p. 15.]

District.	Year.	Number of plants.	Number of employees. ¹	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—							
				5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	6 days and 7 days alternately.	7 days.	5 days.	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	5 days, 6 days, and 6 days in rotation.	6 days.	6 days and 7 days alternately.	7 days.	
PITTSBURGH.																		
Selected occupations.....	1910	9	2,346	2	46	1,907	.....	380	.....	11	(²)	2	.....	16	.....	1
	1911	9	2,781	2	40	2,326	.....	400	.....	13	(²)	1	.....	14	.....	1
	1912	9	2,716	2	46	2,281	.....	370	4	13	(²)	2	.....	14	(²)	1
	1913	9	2,455	2	10	2,155	.....	278	.....	10	(²)	(²)	.....	11	.....	(²)
	1914	10	2,824	.....	10	2,521	.....	268	.....	25	.....	(²)	.....	9	.....	1
	1915	10	2,532	2	48	2,179	.....	266	.....	37	(²)	2	.....	11	.....	1
	1917	4	1,489	69	525	765	130	5	35	51	9	1	
	1919	7	2,076	4	1,453	456	183	(²)	183	70	22	8	1
	1920	9	3,096	2	18	2,092	669	284	31	(²)	1	68	22	9	1	
	1922	9	3,528	13	18	2,277	711	461	2	46	(²)	1	65	20	13	(²)	1	
	All occupations.....	1914	10	4,150	3	110	2,521	1,282	234	(²)	3	61	31	6	
		1915	10	3,808	20	144	2,179	1,208	20	237	1	4	57	32	1	
1920		9	5,410	40	193	2,483	847	1,669	68	110	1	4	46	16	31	1		
1922		9	5,798	120	97	2,674	877	1,732	34	284	2	2	46	15	30	1		
GREAT LAKES AND MIDDLE WEST.																		
Selected occupations.....	1913	4	1,000	34	.....	732	195	107	17	5	3	.....	67	18	10	2
	1914	5	1,521	2	.....	1,102	216	197	2	2	(²)	.....	72	14	13	(²)
	1915	5	1,498	2	.....	966	252	186	2	.....	(²)	.....	69	18	13	(²)
	1917	4	1,759	.....	.....	1,068	234	457	.....	.....	.....	.....	61	13	26	.....	
	1919	4	2,181	.....	6	1,424	581	131	.....	.....	2	(²)	65	27	6	.....	
	1920	4	2,221	1	24	1,245	370	581	.....	.....	(²)	1	56	17	26	.....	
	1921	4	2,221	1	24	1,245	370	581	.....	.....	(²)	1	56	17	26	.....	
	1922	5	2,554	14	18	1,585	392	520	16	9	1	1	62	15	20	1		
	All occupations.....	1914	5	2,154	12	9	1,144	216	705	57	11	1	(²)	53	10	33	3	
		1915	5	1,928	12	6	994	252	625	31	8	1	(²)	52	13	32	2	
1920		4	3,328	12	51	1,342	519	1,252	.....	152	(²)	2	40	16	38	.....	
1921		4	3,328	12	51	1,342	519	1,252	.....	152	(²)	2	40	16	38	.....	
1922		5	3,863	33	143	1,670	552	1,261	38	166	1	4	43	14	33	1		

TOTAL.																	
Selected occupations.....	1910	9	2,346	2	46	1,907	.....	380	.....	11	(?)	2	81	.....	16	.....	1
	1911	9	2,781	2	40	2,326	.....	400	.....	13	(?)	1	84	.....	14	.....	1
	1912	9	2,716	2	46	2,281	.....	370	.....	4	(?)	2	84	.....	14	.....	1
	1913	13	3,545	36	10	2,887	195	385	17	15	1	(?)	81	6	11	(?)	(?)
	1914	15	4,345	2	10	3,623	216	465	2	27	(?)	2	83	5	11	(?)	(?)
	1915	15	3,940	4	48	3,145	252	452	2	37	(?)	(?)	80	6	11	(?)	(?)
	1917	8	3,248	.....	69	1,593	999	587	.....	.....	.....	1	39	31	18	.....	.....
	1919	11	4,257	38	10	2,877	1,637	295	.....	.....	1	(?)	68	24	7	.....	.....
	1920	13	5,317	3	42	3,337	1,039	565	.....	31	(?)	1	63	20	16	.....	1
	1922	14	6,082	27	36	3,862	1,103	981	18	55	(?)	1	63	18	16	(?)	1
All occupations.....	1914	15	6,304	15	119	3,665	216	1,987	57	245	(?)	2	58	3	32	1	4
	1915	15	5,736	32	150	3,173	252	1,833	51	245	1	3	55	4	32	1	4
	1920	13	8,738	52	244	3,825	1,366	2,921	68	262	1	3	44	16	33	1	3
	1922	14	9,661	153	240	4,344	1,429	2,993	72	430	(?)	2	45	15	31	1	4

¹ The figures in this column for the years 1910 to 1917 represent the number of jobs and for the years 1919, 1920, and 1922 the actual number of men employed.
² Less than 1 per cent.

Table C (9) shows by districts for each of the principal productive occupations the number of employees, the customary full time, and the actual working time and earnings of employees in 1922, together with the additional time and earnings of the same employees at occupations other than the one specified.

Referring to the occupation of roughers as an illustration: In the 14 plants reported there were 438 positions under normal operating conditions. On account of employees working short or broken time 590 men were required to fill these 438 positions. The customary working time of the men in these positions was 5.4 turns per week, 8 hours per turn, and 43.3 hours per week.

During the pay period scheduled they worked an average of 61.7 hours as roughers, and earned \$61.30, or 99.4 cents per hour. During the same time they worked an average of 21.4 hours at other occupations, for which they received an average of \$20.38 additional pay.

In the distribution of customary full-time hours per week there were only three occupations, picklers, feeders, and laborers, that had any employees working over 48 hours per week. The average customary full-time hours per week of these three occupations ranged from 61.4 for feeders to 65.9 for picklers.

The range of average hourly earnings in this department was from 35.6 cents for laborers to \$1.895 for rollers, while the average earnings per pay period for the same occupations were \$24.04 and \$133.29, respectively.

Rollers, level-handed, worked 34.1 hours per pay period which is the lowest average actual hours worked in any of the selected occupations. In 1920 this occupation in this department appeared in the Pittsburgh district only, but in 1922 working conditions had changed and this occupation was reported in the Great Lakes and Middle West district only. Rollers' helpers and finishers show the least variation in average full-time weekly earnings between the two districts, the average for the Pittsburgh district being \$31.13 and that for the Great Lakes and Middle West district \$30.64.

The average hourly earnings for combined selected occupations in this department were 89.6 cents, which is higher than that for any other department. Likewise the average hourly earnings of 69.4 cents for all occupations combined were higher than in any other department.

TABLE C (9).—AVERAGE CUSTOMARY FULL-TIME HOURS AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—SHEET MILLS.

[For explanation of this table see p. 16.]

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.							Average full-time earnings per week.	Scheduled pay period (15 days).						
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupation.			Specified and other occupations.			
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72		Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.
Pair heaters:																			
Pittsburgh	9	255	5.4	8.0	43.4	312	312						\$40.36	68.7	\$63.90	\$0.930	81.9	\$75.55	\$0.922
G. L. and M. W.	5	180	5.3	8.0	43.2	264	264						34.86	55.0	44.36	.807	72.2	59.64	.826
Total	14	435	5.4	8.0	43.3	576	576						37.84	62.4	54.95	.880	77.5	68.26	.881
Rollers:																			
Pittsburgh	9	252	5.4	8.0	43.4	295	295						85.15	73.0	143.15	1.962	82.5	152.45	1.849
G. L. and M. W.	5	174	5.3	8.0	43.3	206	206						77.51	66.6	119.17	1.790	75.6	127.94	1.692
Total	14	426	5.4	8.0	43.3	501	501						82.01	70.3	133.29	1.895	79.7	142.37	1.787
Rollers, level handed:																			
G. L. and M. W.	3	17	5.6	8.0	44.5	39	39						47.57	34.1	36.43	1.069	58.8	66.60	1.133
Rollers' helpers, or finishers:																			
Pittsburgh	7	160	5.3	8.0	42.7	256	256						31.13	51.7	37.71	.729	78.6	62.42	.794
G. L. and M. W.	4	150	5.3	8.0	43.1	231	231						30.64	48.2	34.23	.711	77.5	63.70	.722
Total	11	310	5.3	8.0	42.9	487	487						30.90	50.0	36.06	.721	78.1	63.02	.807
Roughers:																			
Pittsburgh	9	253	5.4	8.0	43.3	341	341						46.16	63.9	68.08	1.066	87.7	91.94	1.049
G. L. and M. W.	5	180	5.3	8.0	43.2	249	249						38.28	58.7	52.01	.886	76.9	67.64	.880
Total	14	433	5.4	8.0	43.3	590	590						42.83	61.7	61.30	.994	83.1	81.68	.983

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TABLE C (9).—AVERAGE CUSTOMARY FULL-TIME HOURS AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—SHEET MILLS—Concluded.

Occupation and district.	Number of plants.	Positions.				Employees working in scheduled pay period.						Average full-time earnings per week.	Scheduled pay period (15 days).													
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—						Specified occupation.			Specified and other occupations.										
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60	Over 60 and under 72.	72		Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.							
Catchers:																										
Pittsburgh.....	9	252	5.4	8.0	43.4	335	335						\$44.35	63.8	\$65.24	\$1.022	80.0	\$79.15	\$0.989							
G. L. and M. W.....	5	180	5.4	8.0	43.2	254	254						37.84	60.5	53.03	.876	78.3	70.24	.897							
Total.....	14	432	5.4	8.0	43.3	589	589						41.54	62.4	59.98	.961	79.3	75.31	.950							
Matchers:																										
Pittsburgh.....	9	255	5.4	8.0	43.4	394	394						35.81	54.6	45.07	.825	78.4	63.18	.805							
G. L. and M. W.....	5	178	5.4	8.0	43.3	349	349						32.04	42.1	31.15	.740	69.8	51.39	.736							
Total.....	14	433	5.4	8.0	43.3	743	743						34.04	48.7	38.53	.791	74.4	57.64	.775							
Doublers:																										
Pittsburgh.....	9	255	5.4	8.0	43.4	410	410						35.11	52.9	42.81	.809	75.9	61.02	.804							
G. L. and M. W.....	5	178	5.4	8.0	43.3	321	321						31.26	43.6	31.45	.722	69.0	49.51	.717							
Total.....	14	433	5.4	8.0	43.3	731	731						33.42	48.8	37.82	.775	72.9	55.96	.768							
Sheet heaters:																										
Pittsburgh.....	9	234	5.4	8.0	43.4	288	288						61.93	68.9	98.27	1.427	83.9	111.21	1.326							
G. L. and M. W.....	5	180	5.4	8.0	43.2	211	211						56.81	66.6	87.57	1.315	77.9	97.24	1.248							
Total.....	14	414	5.4	8.0	43.3	499	499						59.76	67.9	93.75	1.381	81.4	105.31	1.294							
Sheet heaters, level handed:																										
Pittsburgh.....	5	38	5.3	8.0	42.7	47	47						45.13	68.4	72.28	1.057	82.1	86.68	1.056							
G. L. and M. W.....	2	14	5.6	8.0	45.0	43	43						37.17	27.1	22.36	.826	80.5	84.06	1.044							
Total.....	7	52	5.4	8.0	43.3	90	90						41.33	48.6	48.43	.996	81.3	85.42	1.051							

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Sheet heaters' helpers:																				
Pittsburgh	8	173	5.3	8.0	42.7	247	247							32.28	56.7	42.87	.756	79.1	63.24	.799
G. L. and M. W.	5	153	5.4	8.0	43.0	207	207							29.76	57.9	40.06	.692	73.7	55.84	.758
Total	13	326	5.4	8.0	42.8	454	454							31.13	57.2	41.59	.727	76.7	59.86	.781
Shearmen:																				
Pittsburgh	9	123	5.4	8.0	43.5	148	148							52.59	69.7	84.26	1.209	84.5	95.51	1.130
G. L. and M. W.	3	37	5.3	8.0	42.7	42	42							44.96	68.5	72.15	1.053	85.4	82.74	.969
Total	12	160	5.4	8.0	43.3	190	190							50.90	69.4	81.58	1.175	84.7	92.69	1.094
Shearmen's helpers:																				
Pittsburgh	9	120	5.3	8.0	43.6	199	199							29.08	49.7	33.17	.667	78.2	53.99	.691
G. L. and M. W.	3	33	5.3	8.0	42.7	66	66							23.49	40.7	22.37	.550	73.7	46.61	.633
Total	12	153	5.3	8.0	43.4	265	265							27.69	47.5	30.48	.642	77.1	52.15	.677
Openers:																				
Pittsburgh	9	199	5.5	8.0	43.6	306	306							32.44	54.9	40.83	.744	77.3	57.84	.748
G. L. and M. W.	2	34	5.3	8.0	42.7	109	109							27.97	24.1	15.80	.655	79.3	56.72	.715
Total	11	233	5.4	8.0	43.5	415	415							31.27	46.8	34.26	.732	77.8	57.55	.739
Openers, level handed:																				
Pittsburgh	2	5	5.3	8.0	42.7	13	13							16.74	31.4	12.30	.392	80.9	51.41	.636
G. L. and M. W.	2	17	5.3	8.0	42.7	32	32							28.78	41.7	28.07	.674	71.8	48.39	.674
Total	4	22	5.3	8.0	42.7	45	45							25.30	38.7	23.51	.607	74.4	49.26	.662
Picklers:																				
Pittsburgh	7	42	5.9	10.6	62.5	47	8	5	2	27	5			36.00	97.8	56.27	.576	108.6	61.09	.562
G. L. and M. W.	4	46	6.0	11.6	69.0	59	3	5	18	33				31.53	104.5	47.79	.457	118.8	54.18	.456
Total	11	88	5.9	11.1	65.9	106	8	8	7	45	5	33		33.51	101.5	51.55	.508	114.3	57.24	.501
Feeders:																				
Pittsburgh	4	36	5.7	9.8	55.6	47	20	8	8		11			29.58	82.6	43.95	.532	102.7	53.15	.517
G. L. and M. W.	4	52	6.0	10.8	65.4	72	18		4	36	14			31.33	85.2	40.84	.479	112.5	53.25	.473
Total	8	88	5.9	10.4	61.4	119	38	8	12	36	11	14		30.64	84.2	42.07	.500	108.6	53.21	.490
Laborers:																				
Pittsburgh	9	173	6.1	9.9	60.3	389		238	76	61	14			21.89	50.7	18.40	.363	103.0	44.63	.433
G. L. and M. W.	4	248	6.0	11.4	68.6	419			172	247				24.15	83.3	29.27	.352	115.5	44.98	.389
Total	13	421	6.0	10.8	65.2	808		238	248	61	261			23.06	67.6	24.04	.356	109.5	44.81	.409

SHEET MILLS.

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Table D (9) shows the number of employees and the average and classified earnings per hour for rollers and matchers in 1922, by districts and all districts combined.

The classified earnings per hour for rollers ranged from 70 cents to \$3, with an average of \$1.894. The largest number of employees (170) were shown in the group "\$1.75 and under \$2."

The classified earnings of matchers covers a very wide range, extending from 25 cents to \$1.75 per hour, with an average of 79.1 cents for both districts combined.

TABLE D (9).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS—*SHEET MILLS.*

[For explanation of this table see p. 17.]

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—									
			70 and under 80 cts.	80 and under 90 cts.	\$1 and under \$1.25.	\$1.25 and under \$1.50.	\$1.50 and under \$1.75.	\$1.75 and under \$2.	\$2 and under \$2.25.	\$2.25 and under \$2.50.	\$2.50 and under \$2.75.	\$2.75 and under \$3.
ROLLERS.												
Pittsburgh.....	295	\$1.960	.....	.....	5	9	56	113	66	29	15	2
Great Lakes and Middle West.....	206	1.790	1	1	10	38	53	57	31	74	.....	1
Total.....	501	1.894	1	1	15	47	109	170	97	43	15	3

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—											
			25 and under 30 cts.	30 and under 35 cts.	35 and under 40 cts.	40 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.	70 and under 80 cts.	80 and under 90 cts.	90 and under \$1.	\$1 and under \$1.25.	\$1.25 and under \$1.50.	\$1.50 and under \$1.75.
MATCHERS.														
Pittsburgh.....	394	\$0.825	2	.....	1	7	14	52	112	118	52	31	.....	2
Great Lakes and Middle West.....	349	.741	4	4	7	13	49	76	112	64	15	5	.....	.....
Total.....	743	.791	6	4	8	20	63	128	224	182	67	36	3	2

Customary turns per week, hours per turn, and full-time hours per week of those employees who regularly worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (9) for the sheet-mill department. As stated in the general explanation of this table (p. 17) data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (9).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—SHEET MILLS.

[This table includes only employees who worked but one combination of customary days and hours during pay period. For explanation of table see p. 17.]

DAY TURNS.

Customary turns and hours worked.									Number of employees who worked each specified combination of customary turns and hours, by districts.		
Day turns.					Night turns.				Pitts- burgh.	Great Lakes and Middle West.	Total.
Turns per week.	Hours.				Turns per week.	Hours.					
	Mon- day to Fri- day.	Sat- urday.	Sun- day.	Per week.		Mon- day to Fri- day.	Sat- urday.	Sun- day.				Per week.
7	12	12	12	84	.....	.....	.....	.....	5	47	52
7	12	12	10	82	.....	.....	.....	.....	1	.....	1
7	12	10	10	80	.....	.....	.....	.....	1	.....	1
7	11½	11½	11½	80½	.....	.....	.....	.....	1	1	2
7	11	11	11	77	.....	.....	.....	.....	3	.....	3
7	11	9½	9½	74	.....	.....	.....	.....	3	.....	3
7	10½	10½	10½	73½	.....	.....	.....	.....	1	3	4
7	10	10	10	70	.....	.....	.....	.....	11	1	12
7	10	10	6	66	.....	.....	.....	.....	3	.....	3
7	10	10	5	65	.....	.....	.....	.....	1	.....	1
7	10	9	8½	67½	.....	.....	.....	.....	101	.....	101
7	10	9	5	64	.....	.....	.....	.....	1	.....	1
6	13	.....	.....	76	.....	.....	.....	.....	1	.....	1
6	12	12	.....	72	.....	.....	.....	.....	7	95	102
6	12	10	.....	70	.....	.....	.....	.....	6	.....	6
6	10	12	.....	62	.....	.....	.....	.....	1	.....	1

NIGHT TURNS.

.....	.....	.....	.....	.....	7	12½	12½	12½	87½	.....	1	1
.....	.....	.....	.....	.....	7	12½	12½	12½	87½	.....	1	1
.....	.....	.....	.....	.....	6	12½	12½	12½	75	.....	1	1
.....	.....	.....	.....	.....	7	12	12	12	84	7	2	9
.....	.....	.....	.....	.....	7	12	12	12	84	.....	1	1
.....	.....	.....	.....	.....	6	12	12	12	72	.....	1	1
.....	.....	.....	.....	.....	7	12	12	8	80	6	.....	6
.....	.....	.....	.....	.....	7	10½	10½	10½	73½	.....	1	1
.....	.....	.....	.....	.....	6	15	.....	15	90	1	.....	1
.....	.....	.....	.....	.....	6	13	.....	13	78	1	.....	1
.....	.....	.....	.....	.....	6	12½	.....	12½	75	1	4	5
.....	.....	.....	.....	.....	6	12	.....	12	72	34	48	82
.....	.....	.....	.....	.....	5	12½	.....	.....	62½	1	.....	1
.....	.....	.....	.....	.....	5	12	.....	.....	60	92	1	93

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

7	12	12	12	84	7	12	12	12	84	13	69	82
7	12	12	12	84	6	12	.....	12	72	11	26	37
7	11	11	11	77	7	13	13	13	91	32	16	48
7	11	11	11	77	6	13	13	13	78	.....	2	2
6	11	11	11	66	7	13	13	13	91	.....	.....	.....
7	11	11	11	77	6	11	.....	11	66	.....	3	3
7	11	10½	11	76½	6	13	.....	13	78	4	.....	4
7	10	10	10	70	7	14	14	14	98	26	.....	26
7	10	10	10	70	6	12	.....	12	72	7	.....	7
7	8	8	8	56	6	8	.....	8	48	.....	3	3
.....	.....	.....	.....	.....	6	8	.....	8	48	.....	.....	.....
6	12	12	12	72	6	12	12	12	72	20	12	32
6	12	12	.....	72	7	12	12	12	84	4	7	11
6	12	12	.....	72	6	12	.....	12	72	108	321	429
6	12	12	.....	72	6	12	.....	6	66	5	.....	5
6	12	12	.....	72	5	12	.....	.....	60	11	1	12
6	12	10	.....	70	6	12	.....	12	72	9	.....	9
6	12	10	.....	70	6	12	.....	6	66	12	.....	12
6	12	9	.....	69	6	12	6	.....	66	.....	13	13

160 WAGES AND HOURS OF LABOR—IRON AND STEEL INDUSTRY.

TABLE E (9).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—*SHEET MILLS*—Concluded.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY—Concluded.

Customary turns and hours worked.										Number of employees who worked each specified combination of customary turns and hours, by districts.		
Day turns.					Night turns.					Pitts- burgh.	Great Lakes and Middle West.	Total.
Turns per week.	Hours.				Turns per week.	Hours.						
	Mon- day to Fri- day.	Sat- urday.	Sun- day.	Per week.		Mon- day to Fri- day.	Sat- urday.	Sun- day.	Per week.			
6	12	8	.....	68	6	12	8	.....	68	2	.....	2
6	12	8	.....	68	5	12	.....	.....	60	20	.....	20
6	12	6	.....	66	6	12	.....	6	66	8	.....	8
6	11	11	.....	66	7	13	13	13	91	2	.....	2
6	11	11	.....	66	7	13	13	8½	86½	2	.....	2
6	11	11	.....	66	6	13	.....	13	78	.....	23	23
6	11	10½	.....	65½	6	13	.....	13	78	2	.....	2
6	11	9½	.....	64½	6	13	.....	13	78	6	.....	6
6	10½	10½	.....	63	6	13½	.....	13½	81	2	.....	2
6	10½	5	.....	57½	5	12	.....	.....	60	.....	37	37
6	10	10	.....	60	6	14	.....	14	84	4	.....	4
6	10	10	.....	60	5	12	.....	.....	60	22	.....	22
6	10	9	.....	59	6	14	.....	15	85	2	.....	2
6	10	9	.....	59	6	12	.....	12	72	2	.....	2
6	10	9	.....	59	6	12	.....	10	70	35	.....	35
6	10	8	.....	58	6	12	.....	12	72	4	.....	4
5	11	.....	.....	55	6	13	.....	6½	71½	5	.....	5
5	10	.....	.....	50	6	13½	.....	13½	81	.....	41	41

SUMMARY.

Item.	Pitts- burgh district.	Great Lakes and Middle West district.	Total.	Per cent of em- ployees who worked but one combina- tion of days and hours.
Total sheet-mill employees.....	5,548	3,694	9,242	.....
Employees who worked one combination of days and hours....	5,117	3,513	8,630	100
7-day week or straight or average day of 12 or more hours all or part of the time.....	673	777	1,450	17
7-day week all of the time.....	216	141	357	4
7-day week part of the time.....	33	40	73	1
Straight or average day of 12 or more hours all of the time..	385	677	1,062	12
Straight or average day of 12 or more hours part of the time..	160	91	251	3
7-day week and straight or average day of 12 or more hours all of the time.....	83	135	218	3

Of the total number of sheet-mill employees reported, 8,630 worked but one combination of customary days and hours. Of these 8,630 employees, 1,450, or 17 per cent, regularly worked 7 days per week or a straight or average day of 12 or more hours all or part of the time, 294 working days only, 202 working nights only, and 954 alternating between day and night work. Twelve per cent (1,062) worked a straight or average day of 12 or more hours all of the time, and 3 per cent (251) worked a straight or average day of 12 or more hours part of the time.

TIN-PLATE MILLS.

The 1922 survey includes 9 representative tin-plate mills, and covers 8,992 employees in all occupations. Of the total number of employees reported, 4,613 are found in the principal productive occupations for which separate figures are given. Data were first obtained for this department in 1910 and comparative figures are presented for the period 1910 to 1922¹

Considering the principal productive occupations as a whole, average full-time hours per week in 1922 were 1 per cent less than in 1920 and 6 per cent less than in 1913. Average hourly earnings, while 75 per cent greater in 1922 than in 1913, were 20 per cent less than in 1919 and 31 per cent less than in 1920. Average full-time earnings per week followed very closely the course of hourly earnings, as changes in full-time hours were very slight as compared with the variations in hourly earnings. The average earnings per hour of all employees in all occupations were 65 cents in 1922 as compared with 94.9 cents in 1920.

The most significant facts concerning average earnings and average hours in each of the principal productive occupations of tin-plate mills are shown in Table A (10). The customary working time of all occupations in the heating and rolling crews remained the same, 42.7 hours per week, throughout the entire period 1910 to 1922. The other occupations, consisting of the shearing crew, tinning department, and laborers, show various changes in full-time hours per week from year to year. The change in full-time hours of these employees in 1922 as compared with 1920 ranged from a decrease of 7.2 hours per week for openers, male, to an increase of 2.7 hours for branners, male. The occupation of redippers showed no change, and openers, female, branners, female, and assorters, male, are shown for the first time in this report, hence no comparison is possible for these three occupations. The full-time hours of openers, male, during the period 1910 to 1915 were subject to only slight variations, the hours in 1910 being 57.5 as compared with 57.2 in 1915. In 1919 the working time dropped to 52.3 hours per week but advanced again in 1920 to 56.2. In 1922 the average was 49 hours.

Average earnings per hour have decreased in each of the selected occupations in which comparative figures are available when 1922 is compared with 1920 or 1919, but in each instance the 1922 figures are higher than those in any other year for which data are presented. The decreases in 1922 when compared with 1920 ranged from 9.7 cents per hour for openers, male, to 84.1 cents for rollers. For example, the average earnings per hour of openers, male, were 22.1 cents in 1910. Earnings advanced during the next two years to 29.6 cents per hour. The movement of wages in 1913, 1914, and 1915 was in the opposite direction, the hourly earnings for those years being 27.4, 26.6, and 24.7 respectively. The average of 80 cents per hour in 1919 was influenced to a large extent by war conditions. Earnings decreased to 72.8 cents per hour in 1920 and 63.1 cents in 1922.

Average full-time weekly earnings decreased in each selected occupation in about the same proportion as average hourly earnings.

¹ No data were collected for the years 1916, 1917, 1918, and 1921.

The distribution of employees according to average hours per week shows no change from year to year for the heating and the rolling crews, all appearing in the group "48 and under." The employees in the other principal productive occupations worked 60 hours per week or less in 1922, except branners, male, and laborers. Twenty-five per cent of the branners, male, are shown in the group "Over 72 and under 84" and 38 per cent worked "Over 60 and under 72." Nine per cent of the laborers are shown in the group "Over 60 and under 72."

Index numbers for average full-time hours per week, average earnings per hour, and average full-time weekly earnings are also contained in Table A (10). These are simply percentages computed from the averages presented in the table, using the average for 1913 as the base, or 100 per cent. The index number for this department as a whole (all selected occupations combined) is shown on page 4.

TABLE A (10).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—TIN-PLATE MILLS.¹

[For explanation of this table see p. 15.]

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—									
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	72	Over 72 and under 84.	84				
Rollers:																		
1910.....	5	174	42.7	\$1.025	\$43.73	100	90	90	100									
1911.....	6	201	42.7	1.109	47.33	100	97	97	100									
1912.....	6	229	42.7	1.097	46.82	100	96	96	100									
1913.....	9	356	42.7	1.139	48.59	100	100	100	100									
1914.....	10	345	42.7	1.115	47.59	100	98	98	100									
1915.....	10	349	42.7	1.106	47.17	100	97	97	100									
1919.....	9	410	42.7	2.248	95.99	100	197	198	100									
1920.....	9	476	42.7	2.542	108.54	100	223	223	100									
1922.....	9	400	42.7	1.701	72.56	100	149	149	100									
Rollers, level handed:																		
1919.....	7	46	42.7	1.362	58.16				100									
1920.....	7	212	42.7	1.599	68.29				100									
1922.....	3	138	42.7	.924	38.62				100									
Roughers:																		
1910.....	5	174	42.7	.425	18.14	100	80	80	100									
1911.....	6	196	42.7	.507	21.63	100	95	95	100									
1912.....	6	216	42.7	.513	21.89	100	96	96	100									
1913.....	10	380	42.7	.533	22.73	100	100	100	100									
1914.....	11	367	32.7	.560	23.87	100	105	105	100									
1915.....	11	366	42.7	.562	23.96	100	105	105	100									
1919.....	9	447	42.7	1.193	50.94	100	224	224	100									
1920.....	9	502	42.7	.363	58.21	100	256	256	100									
1922.....	9	429	42.7	.893	38.08	100	168	168	100									
Catchers:																		
1910.....	5	174	42.7	.427	18.23	100	92	92	100									
1911.....	6	198	42.7	.487	20.79	100	105	105	100									
1912.....	6	239	42.7	.403	17.20	100	87	87	100									
1913.....	10	354	42.7	.463	19.74	100	100	100	100									
1914.....	11	347	42.7	.468	19.95	100	101	101	100									
1915.....	11	361	42.7	.489	20.87	100	106	106	100									
1919.....	9	507	42.7	1.014	43.30	100	219	219	100									
1920.....	9	541	42.7	1.217	51.95	100	263	263	100									
1922.....	9	456	42.7	.817	34.83	100	176	176	100									
Screw boys:																		
1910.....	5	174	42.7	.308	13.15	100	84	84	100									
1911.....	6	198	42.7	.345	14.72	100	94	94	100									
1912.....	6	221	42.7	.352	15.03	100	96	96	100									
1913.....	10	387	42.7	.366	15.64	100	100	100	100									
1914.....	11	384	42.7	.385	16.43	100	105	105	100									
1915.....	11	372	42.7	.389	16.59	100	106	106	100									
1919.....	9	466	42.7	.818	34.93	100	223	223	100									
1920.....	9	585	42.7	.973	41.54	100	266	266	100									
1922.....	9	476	42.7	.676	28.65	100	185	183	100									

¹ This table was published in the Monthly Labor Review for March, 1923.

TABLE A (10).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—TIN-PLATE MILLS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—				
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60 and under 72.	72 and under 84.	84
Doublers:													
1910.....	5	174	42.7	\$0.632	\$26.97	100	85	85	100				
1911.....	6	205	42.7	.706	30.13	100	95	95	100				
1912.....	6	247	42.7	.677	28.00	100	91	92	100				
1913.....	10	341	42.7	.740	31.58	100	100	100	100				
1914.....	10	324	42.7	.734	31.32	100	99	99	100				
1915.....	10	322	42.7	.718	30.63	100	97	97	100				
1919.....	8	352	42.7	1.408	60.12	100	190	190	100				
1920.....	9	330	42.7	1.655	70.69	100	224	224	100				
1922.....	9	322	42.7	1.046	44.80	100	141	142	100				
Doublers, level handed:													
1913.....	4	46	42.7	.567	24.20	100	100	100	100				
1914.....	5	54	42.7	.559	23.84	100	99	99	100				
1915.....	5	62	42.7	.561	23.92	100	99	99	100				
1919.....	5	84	42.7	1.114	47.57	100	196	197	100				
1920.....	8	382	42.7	1.290	55.09	100	228	228	100				
1922.....	7	284	42.7	.866	36.81	100	153	152	100				
Doublers' helpers:													
1910.....	5	174	42.7	.324	13.82	100	90	90	100				
1911.....	6	191	42.7	.351	14.97	100	97	97	100				
1912.....	6	193	42.7	.370	15.81	100	102	102	100				
1913.....	10	344	42.7	.362	15.43	100	100	100	100				
1914.....	10	330	42.7	.387	16.49	100	107	107	100				
1915.....	10	324	42.7	.402	17.17	100	111	111	100				
1919.....	9	406	42.7	.888	37.92	100	245	246	100				
1920.....	9	394	42.7	1.014	43.28	100	280	280	100				
1922.....	8	345	42.7	.686	28.94	100	190	188	100				
Heaters:													
1910.....	5	174	42.7	.648	27.63	100	95	95	100				
1911.....	6	215	42.7	.714	30.47	100	105	105	100				
1912.....	6	314	42.7	.675	28.78	100	99	99	100				
1913.....	6	312	42.7	.679	28.99	100	100	100	100				
1914.....	9	142	42.7	.752	32.10	100	111	111	100				
1915.....	9	211	42.7	.725	30.95	100	107	107	100				
1919.....	9	288	42.7	1.458	62.26	100	215	215	100				
1920.....	8	182	42.7	1.722	73.51	100	254	254	100				
1922.....	8	149	42.7	1.170	49.84	100	172	172	100				
Heaters, level handed:													
1913.....	6	414	42.7	.595	25.38	100	100	100	100				
1914.....	6	430	42.7	.622	26.53	100	105	105	100				
1915.....	6	294	42.7	.611	26.08	100	103	103	100				
1919.....	7	272	42.7	1.273	54.36	100	214	214	100				
1920.....	9	756	42.7	1.465	62.57	100	246	247	100				
1922.....	9	656	42.7	1.001	42.70	100	168	168	100				
Heaters' helpers:													
1910.....	4	165	42.7	.348	14.84	100	81	81	100				
1911.....	5	166	42.7	.436	18.60	100	101	101	100				
1912.....	5	109	42.7	.396	16.92	100	92	92	100				
1913.....	8	147	42.7	.430	18.36	100	100	100	100				
1914.....	8	127	42.7	.476	20.32	100	111	111	100				
1915.....	8	202	42.7	.455	19.43	100	106	106	100				
1919.....	8	241	42.7	1.052	44.92	100	245	245	100				
1920.....	8	230	42.7	1.174	50.14	100	273	273	100				
1922.....	8	135	42.7	.847	36.02	100	197	196	100				
Shearmen:													
1910.....	5	58	52.7	.497	25.68	93	102	94	53	12	34		
1911.....	6	65	52.8	.555	28.72	93	114	105	54	11	35		
1912.....	6	72	51.8	.573	29.00	92	118	106	60	10	31		
1913.....	9	126	56.5	.485	27.34	100	100	100	6	82	13		
1914.....	9	116	56.9	.486	27.61	101	100	101	3	84	14		
1915.....	8	112	57.3	.514	29.55	101	106	108		86	14		
1919.....	6	140	48.3	1.368	66.07	85	282	242	56	44			
1920.....	6	103	44.1	1.280	56.52	78	264	207	80	20			
1922.....	8	118	44.6	.915	40.52	79	189	148	83	17			

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TABLE A (10).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—TIN-PLATE MILLS—Continued.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—									
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	60 and under 72.	72 and under 84.	84					
Shearmen's helpers:																		
1910.....	2	25	61.8	\$0.118	\$7.31	111	72	80	.....	80	20	.....	.....			
1911.....	2	31	59.7	.118	7.02	107	72	77	.....	26	74	.....	.....			
1912.....	3	35	57.6	.136	7.71	103	82	84	14	20	63	.....	3				
1913.....	4	42	55.8	.165	9.13	100	100	100	19	51	14	16	.....				
1914.....	4	42	55.3	.168	9.18	99	102	101	17	52	14	17	.....				
1915.....	3	33	56.5	.150	8.51	101	91	93	.....	67	15	18	.....				
1919.....	2	29	53.9	.539	29.05	97	327	318	31	69	.....	.....	.....		
1920.....	1	22	49.5	.731	36.18	89	443	396	.....	100	.....	.....	.....		
1922.....	2	33	49.4	.413	20.40	89	250	223	27	73	.....	.....	.....		
Openers, male:																		
1910.....	3	94	57.5	.221	12.72	101	81	82	.....	100	.....	.....	.....		
1911.....	4	84	57.3	.266	15.24	101	97	98	.....	100	.....	.....	.....		
1912.....	5	93	56.9	.296	16.86	100	108	108	4	96	.....	.....	.....		
1913.....	7	210	56.9	.274	15.58	100	100	100	.....	100	.....	.....	.....		
1914.....	7	201	56.8	.266	15.14	100	97	97	.....	100	.....	.....	.....		
1915.....	7	227	57.2	.247	14.13	101	90	91	.....	93	7	.....	.....			
1919.....	5	235	52.3	.800	41.84	92	292	269	23	77	.....	.....	.....		
1920.....	4	204	56.2	.728	40.55	99	266	280	.....	100	.....	.....	.....		
1922.....	6	186	49.0	.631	29.08	86	230	187	36	64	.....	.....	.....		
Openers, female:																		
1922.....	1	4	44.0	.476	20.94	.....	.....	.....	100	.....	.....	.....	.....	
Tinners:																		
1910.....	4	224	42.9	.402	17.27	98	93	92	98	2	.....	.....	.....		
1911.....	5	283	43.0	.429	18.48	99	99	98	98	2	.....	.....	.....		
1912.....	5	294	43.4	.444	19.28	100	103	102	94	6	.....	.....	.....		
1913.....	8	484	43.6	.433	18.84	100	100	100	95	5	(?)	.....	.....			
1914.....	8	486	43.5	.442	19.22	100	102	102	95	5	(?)	.....	.....			
1915.....	8	487	43.3	.442	19.13	99	102	102	97	3	(?)	.....	.....			
1919.....	8	683	43.0	.977	42.01	99	226	223	97	3	.....	.....	.....		
1920.....	9	702	42.9	1.114	47.85	98	257	254	100	3	.....	.....	.....		
1922.....	6	410	43.3	.795	34.20	99	184	182	100	.....	.....	.....	.....	
Redippers:																		
1910.....	1	14	46.2	.570	26.56	87	106	95	71	29	.....	.....	.....		
1911.....	1	17	47.2	.619	29.32	89	115	105	71	29	.....	.....	.....		
1912.....	1	10	55.0	.592	32.58	104	110	116	.....	100	.....	.....	.....		
1913.....	3	26	53.0	.536	28.03	100	100	100	42	54	4	.....	.....			
1914.....	3	23	53.0	.538	28.55	100	100	102	43	52	4	.....	.....			
1915.....	3	19	51.4	.563	28.81	97	105	108	58	37	5	.....	.....			
1919.....	2	29	46.9	1.272	59.66	88	237	213	55	45	.....	.....	.....		
1920.....	3	27	43.1	1.538	66.26	81	287	236	100	.....	.....	.....	.....	
1922.....	2	33	43.1	1.027	44.26	81	192	158	100	.....	.....	.....	.....	
Risers:																		
1910.....	2	34	44.1	.262	11.51	98	94	91	88	12	.....	.....	.....		
1911.....	3	42	44.8	.275	12.30	99	99	98	86	14	.....	.....	.....		
1912.....	3	30	50.1	.239	11.98	111	86	95	40	60	.....	.....	.....		
1913.....	3	34	45.1	.279	12.59	100	100	100	100	.....	.....	.....	.....	
1914.....	4	48	51.3	.268	13.70	114	96	109	52	46	2	.....	.....			
1915.....	4	41	49.5	.288	14.16	110	103	112	66	32	2	.....	.....			
1919.....	3	46	47.4	.642	30.43	105	230	242	50	50	.....	.....	.....		
1920.....	3	41	43.2	.791	34.12	96	284	271	100	.....	.....	.....	.....	
1922.....	2	54	42.9	.528	22.65	95	189	180	100	.....	.....	.....	.....	
Branners, male:																		
1910.....	2	12	67.8	.170	11.52	106	89	95	.....	.....	100	.....	.....			
1911.....	2	20	67.7	.170	11.50	106	89	95	.....	.....	100	.....	.....			
1912.....	2	16	67.7	.170	11.51	106	89	95	.....	.....	100	.....	.....			
1913.....	4	37	63.7	.190	12.14	100	100	100	.....	43	.....	46	11			
1914.....	4	41	64.1	.198	12.69	101	104	105	.....	39	.....	51	10			
1915.....	4	34	65.4	.203	13.22	103	107	109	.....	24	.....	76	.....				
1919.....	6	60	61.3	.452	27.71	96	238	228	23	30	27	13	.....				
1920.....	6	48	62.4	.624	38.68	98	328	319	23	10	35	31	7					
1922.....	6	32	65.1	.455	28.98	102	239	239	31	6	38	.....	25				
Branners, female:																		
1922.....	1	6	42.0	.287	12.05	.....	.....	.....	100	.....	.....	.....	.....	

* Less than 1 per cent.

TABLE A (10).—AVERAGE CUSTOMARY FULL-TIME HOURS PER WEEK, AVERAGE EARNINGS PER HOUR, AND AVERAGE FULL-TIME WEEKLY EARNINGS AND INDEX NUMBERS THEREFOR, 1910 TO 1922, BY OCCUPATIONS—TIN-PLATE MILLS—Concluded.

Occupation and year.	Number of plants.	Number of employees.	Average full-time hours per week.	Average earnings per hour.	Average full-time weekly earnings.	Index numbers. (1913=100.)			Per cent of employees whose average full-time hours per week were—					
						Full-time hours per week.	Earnings per hour.	Full-time weekly earnings.	48 and under.	Over 48 and under 60.	Over 60 and under 72.	Over 72 and under 84.	84	
Assorters, male 1922.....	2	21	49.3	\$0.619	\$30.66	.....	.....	.....	71	.....	29	.....	.....	.....
Assorters, female: 1910.....	4	101	49.7	.128	6.41	93	79	73	46	54	.....	.....	.....	.....
1911.....	5	120	50.7	.138	7.03	94	85	80	38	62	.....	.....	.....	.....
1912.....	5	127	51.4	.145	7.39	96	89	84	37	63	.....	.....	.....	.....
1913.....	6	171	53.7	.163	8.75	100	100	100	25	75	.....	.....	.....	.....
1914.....	6	172	53.3	.153	8.26	99	94	94	27	73	.....	.....	.....	.....
1915.....	6	208	55.4	.162	8.98	103	99	103	23	77	.....	.....	.....	.....
1919.....	6	279	48.5	.417	20.22	90	256	231	44	56	.....	.....	.....	.....
1920.....	7	295	46.9	.465	21.83	87	285	249	43	57	.....	.....	.....	.....
1922.....	6	230	43.3	.365	15.84	81	224	181	98	.....	2	.....	.....	.....
Laborers: 1910.....	4	191	60.6	.165	9.97	98	87	86	.....	53	24	23	.....	.....
1911.....	5	238	61.0	.164	10.01	99	87	86	.....	37	38	24	1	.....
1912.....	6	276	61.6	.167	10.32	100	88	89	.....	30	43	25	(?)	1
1913.....	9	575	61.6	.189	11.64	100	100	100	.....	24	18	58	(?)	(?)
1914.....	9	469	62.4	.189	11.78	101	100	101	.....	12	16	72	.....	(?)
1915.....	9	444	61.6	.190	11.72	100	101	101	.....	33	16	51	.....	(?)
1919.....	6	418	64.3	.461	29.64	104	244	255	1	13	36	32	12	2
1920.....	8	271	60.5	.533	32.19	98	282	277	.....	62	13	21	5	.....
1922.....	9	231	59.4	.359	21.28	96	190	183	.....	72	19	9	.....	.....

* Less than 1 per cent.

The number of employees reported in 1922 is not always the actual number of employees, as the totals in most cases contain some duplications, or repeated employees, as stated in the general explanation of Table B. Of the 4,695 employees reported in selected occupations for all districts combined 4,613 were actually engaged, and the 9,166 employees shown in all occupations represent 8,992 actual employees.

The number of employees reported, together with the net number of actual employees for selected occupations and for all occupations in each district and in all districts combined, are shown in Table 17.

TABLE 17.—NUMBER OF EMPLOYEES REPORTED, NUMBER OF DUPLICATIONS, AND ACTUAL NUMBER OF EMPLOYEES IN SELECTED OCCUPATIONS AND ALL OCCUPATIONS, 1922, BY DISTRICTS—TIN-PLATE MILLS.

Districts.	Employees in selected occupations.			Employees in all occupations.		
	Number reported.	Number of duplications.	Actual number.	Number reported.	Number of duplications.	Actual number.
Pittsburgh.....	3,339	72	3,267	6,073	105	5,968
Great Lakes and Middle West.....	1,356	10	1,346	3,093	69	3,024
Total.....	4,695	82	4,613	9,166	174	8,992

The customary working time per week of employees in the tin-plate department has been classified, and the number and per cent of employees coming under each classification for the years 1910 to 1922 are shown in Table B (10).

The working time of practically all of the employees in the tin-plate department was either "5 days, 5 days, and 6 days in rotation," or 6 days. In all of the plants covered the regular turn employees, comprising most of the employees in the selected occupations, were divided into three crews, each working eight hours per turn, five turns per week, Monday to Friday, inclusive, with one crew working an extra turn Saturday morning. Each crew advanced one turn each week, thus giving to each the extra Saturday turn every third week. Most of the employees reported in the unclassified occupations were largely mechanics or laborers, and usually worked 6 days per week.

TABLE B (10).—NUMBER AND PER CENT OF EMPLOYEES WHO CUSTOMARILY WORKED EACH SPECIFIED NUMBER OF DAYS PER WEEK IN EACH DISTRICT AND ALL DISTRICTS COMBINED, 1910 TO 1922, BY YEARS—TIN-PLATE MILLS.

[For explanation of this table see p. 15.]

District.	Year.	Number of plants.	Number of employees. ¹	Number of employees whose customary working time per week was—							Per cent of employees whose customary working time per week was—							
				5 days	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	6 days	6 days and 7 days alternately.	7 days	5 days	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	6 days	6 days and 7 days alternately.	7 days			
																5 days	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	6 days	6 days and 7 days alternately.	7 days	5 days	5 days and 6 days alternately.	5 days, 5 days, and 6 days in rotation.	6 days	6 days and 7 days alternately.	7 days
PITTSBURGH.	Selected occupations.	1910	5	2,149	2	12	1,702	433	.....	.....	(*)	1	79	20	.....	.....
		1911	6	2,487	2	11	1,959	514	.....	1	(*)	(*)	79	21	.....	(*)	
		1912	6	2,739	.....	48	2,132	552	.....	7	.....	2	78	20	.....	(*)	
		1913	6	2,663	.....	64	1,995	604	.....	.....	2	.....	75	23	.....	.....
		1914	6	2,560	.....	84	1,927	547	.....	2	.....	3	75	21	.....	(*)	
		1915	6	2,517	.....	41	1,852	624	.....	.....	2	.....	74	25	.....	.....
		1919	5	3,505	.....	203	2,754	499	.....	44	.....	6	79	14	.....	1
		1920	6	3,988	.....	109	3,500	379	.....	.....	3	.....	88	10	.....	.....
		1922	6	3,339	.....	101	2,826	404	.....	8	.....	3	85	12	.....	(*)	
All occupations.	1914	6	3,518	2	210	2,080	1,238	.....	36	(*)	6	58	35	.....	1	
	1915	6	3,485	3	181	1,984	1,277	.....	6	24	(*)	5	57	37	(*)	1	
	1920	6	7,260	.....	417	4,125	2,682	.....	30	12	.....	6	57	37	(*)	(*)
	1922	6	6,073	46	370	3,446	2,154	.....	26	31	1	6	56	35	(*)	1	
G. L. AND M. W.	Selected occupations.	1913	4	1,962	.....	.....	1,434	528	.....	.....	.....	.....	73	27	.....	.....
		1914	4	1,836	.....	.....	1,374	462	.....	.....	.....	.....	75	25	.....	.....
		1915	5	1,955	.....	.....	1,477	477	.....	1	.....	.....	76	24	.....	(*)	
		1919	4	1,953	.....	9	1,586	350	.....	1	(*)	.....	82	18	.....	(*)	
		1920	3	1,739	45	11	1,319	364	.....	.....	3	1	76	21	.....	.....
		1922	3	1,356	.....	7	1,051	298	.....	.....	.....	1	73	22	.....	.....
		All occupations.	1914	5	2,515	2	4	1,458	1,007	16	28	(*)	(*)	58	40	1	1	4
			1915	5	2,662	1,548	1,002	14	98	58	38	
			1920	3	3,257	65	61	1,702	1,289	20	110	2	2	52	40	1	3	3
1922	3		3,093	50	69	1,534	1,332	82	26	2	2	49	43	3	1	1		
TOTAL.	Selected occupations.	1910	5	2,149	2	12	1,702	433	.....	.....	(*)	1	79	20	.....	.....
		1911	6	2,487	2	11	1,959	514	.....	1	(*)	(*)	79	21	.....	(*)	
		1912	6	2,739	.....	48	2,132	552	.....	7	.....	2	78	20	.....	(*)	
		1913	10	4,625	.....	64	3,429	1,132	.....	.....	.....	1	74	24	.....	.....
		1914	10	4,396	.....	84	3,301	1,009	.....	2	.....	2	75	23	.....	(*)	
		1915	11	4,472	.....	41	3,329	1,101	.....	1	.....	1	74	25	.....	(*)	
		1919	9	5,458	.....	9	4,347	849	.....	45	(*)	4	80	16	.....	1
		1920	9	5,727	45	120	4,819	743	.....	.....	1	2	84	13	.....	.....
		1922	9	4,685	.....	108	3,377	702	.....	8	.....	2	83	15	.....	(*)	
All occupations.	1914	11	6,033	4	214	3,488	2,245	16	66	(*)	4	58	37	(*)	1	1		
	1915	11	6,147	3	181	3,532	2,279	20	132	(*)	3	57	37	(*)	2	2		
	1920	9	10,523	65	478	5,827	3,981	50	122	1	5	55	38	(*)	1	1		
	1922	9	9,166	96	439	4,989	3,486	108	57	1	5	54	38	2	1	1		

¹ The figures in this column for the years 1910 to 1915 represent the number of jobs and for the years 1919, 1920, and 1922 the actual number of men employed.
² Less than 1 per cent.

Table C (10) shows by districts for each of the principal productive occupations in 9 tin-plate mills, the number of employees, the customary full time, and the actual working time and earnings in 1922, together with the additional time and earnings of the same employees at occupations other than the one specified.

Referring to the occupation of catchers, for example: In the 9 plants scheduled 321 positions were filled during the pay period by 456 actual employees. The customary working time was 5.3 turns per week, 8 hours per turn, and 42.7 hours per week, which is also the average for the entire heating and rolling crews. In the distribution of the customary full-time hours per week for the heating and rolling crews no employee regularly worked over 48 hours.

During the period scheduled the 456 men who worked as catchers averaged 55 hours and earned \$44.86, or 81.6 cents per hour. During the same time they worked an average of 14.2 hours at other occupations and received an average of \$7.74 additional pay.

Members of the shear crew, some occupations in the tinning department, and laborers regularly worked more hours per week than did the heating and rolling crews. The occupation of branners, male, was the only one in which any employees regularly worked as much as 72 hours per week.

Data for openers, female, and assorters, male, in 1922 are here presented. No data for the former has been shown since 1913, and for the latter since 1912. Branners, female, are presented for the first time in this report.

Rollers, level-handed, working at that occupation only, earned 92.4 cents per hour, but when working at other occupations in addition to their regular occupation they earned \$1.344 per hour. The difference, amounting to 42 cents, is the greatest earned in this manner in any occupation and is accounted for by reason of the work other than that of roller, level-handed, being work as straight roller.

With out one exception, that of sheet mills, the average hourly earnings for selected occupations in this department show a wider range than that for selected occupations of any other department, the range being from \$1.701 for rollers to 28.7 cents for branners, female.

Openers, female; branners, female; and assorters, male, did no work other than that at the specified occupation.

TABLE C (10).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—TIN-PLATE MILLS.

[For explanation of this table see p. 16.]

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.					Average full-time earnings per week.	Scheduled pay period (15 days).								
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—					Specified occupation.			Specified and other occupations.				
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60		Over 60 and under 72.	Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.	
Rollers:																			
Pittsburgh.....	6	215	5.3	8.0	42.7	293	293				74.68	59.4	\$103.88	\$1.749	73.3	\$118.09	\$1.610		
G. L. and M. W.....	3	84	5.3	8.0	42.7	107	107				66.74	57.4	89.65	1.563	70.2	100.49	1.432		
Total.....	9	299	5.3	8.0	42.7	400	400				72.56	58.8	100.07	1.701	72.5	113.38	1.564		
Rollers, level handed:																			
Pittsburgh.....	2	37	5.3	8.0	42.7	91	91				41.25	32.5	31.34	.966	62.6	86.05	1.375		
G. L. and M. W.....	1	12	5.3	8.0	42.7	47	47				33.52	18.8	14.83	.785	76.5	99.03	1.295		
Total.....	3	49	5.3	8.0	42.7	138	138				38.62	27.8	25.72	.924	67.3	90.47	1.344		
Roughers:																			
Pittsburgh.....	6	221	5.3	8.0	42.7	303	303				39.71	59.3	55.13	.930	71.2	64.04	.900		
G. L. and M. W.....	3	102	5.3	8.0	42.7	126	126				34.16	56.1	44.89	.800	65.2	51.67	.792		
Total.....	9	323	5.3	8.0	42.7	429	429				38.08	58.4	52.12	.893	69.4	60.41	.870		
Catchers:																			
Pittsburgh.....	6	221	5.3	8.0	42.7	325	325				35.27	55.3	45.69	.826	71.2	54.49	.765		
G. L. and M. W.....	3	100	5.3	8.0	42.7	131	131				33.73	54.2	42.82	.790	64.2	47.89	.746		
Total.....	9	321	5.3	8.0	42.7	456	456				34.83	55.0	44.86	.816	69.2	52.60	.760		

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Screw boys:																				
Pittsburgh.....	6	246	5.3	8.0	42.7	328	328							29.80	61.6	43.00	.698	72.5	49.73	.686
G. L. and M. W.....	3	107	5.3	8.0	42.7	148	148							28.09	47.6	29.07	.611	57.1	34.25	.600
Total.....	9	353	5.3	8.0	42.7	476	476							28.65	57.2	38.67	.676	67.7	44.91	.663
Doublers:																				
Pittsburgh.....	6	173	5.3	8.0	42.7	227	227							45.99	55.8	60.09	1.077	74.2	74.09	.998
G. L. and M. W.....	3	78	5.3	8.0	42.7	95	95							41.97	66.6	65.48	.983	75.7	71.54	.946
Total.....	9	251	5.3	8.0	42.7	322	322							44.80	59.0	61.68	1.046	74.6	73.34	.983
Doublers, level handed:																				
Pittsburgh.....	5	173	5.3	8.0	42.7	255	255							37.53	54.6	48.00	.879	73.9	67.36	.912
G. L. and M. W.....	2	14	5.3	8.0	42.7	29	29							30.40	38.8	27.68	.712	75.9	64.59	.851
Total.....	7	187	5.3	8.0	42.7	284	284							36.86	53.0	45.92	.866	74.1	67.08	.906
Doublers' helpers:																				
Pittsburgh.....	5	149	5.3	8.0	42.7	184	184							31.17	62.0	45.21	.730	70.0	50.76	.725
G. L. and M. W.....	3	121	5.3	8.0	42.7	161	161							28.39	45.0	27.81	.618	55.9	34.70	.621
Total.....	8	270	5.3	8.0	42.7	345	345							28.94	54.0	37.09	.686	63.4	43.26	.682
Heaters:																				
Pittsburgh.....	5	86	5.3	8.0	42.7	116	116							51.75	59.5	72.10	1.212	78.9	90.92	1.152
G. L. and M. W.....	3	26	5.3	8.0	42.7	33	33							43.13	53.9	54.48	1.010	73.5	70.24	.956
Total.....	8	112	5.3	8.0	42.7	149	149							49.84	58.3	68.20	1.170	77.7	86.34	1.111
Heaters, level handed:																				
Pittsburgh.....	6	317	5.3	8.0	42.7	462	462							44.45	56.8	59.19	1.041	69.6	70.97	1.019
G. L. and M. W.....	3	157	5.3	8.0	42.7	194	194							38.52	55.3	49.86	.902	65.0	57.54	.922
Total.....	9	474	5.3	8.0	42.7	656	656							42.70	56.4	56.43	1.001	68.3	67.00	.981
Heaters' helpers:																				
Pittsburgh.....	5	86	5.3	8.0	42.7	104	104							37.36	66.1	57.87	.875	74.0	64.87	.876
G. L. and M. W.....	3	26	5.3	8.0	42.7	31	31							31.51	57.8	42.70	.738	73.9	53.63	.726
Total.....	8	112	5.3	8.0	42.7	135	135							36.02	64.2	54.38	.847	74.0	62.29	.842
Shearmen:																				
Pittsburgh.....	5	53	5.4	7.9	42.9	67	67							43.72	61.8	62.93	1.019	68.0	65.48	.963
G. L. and M. W.....	3	49	5.7	8.1	46.5	51	31	20						36.32	62.2	48.56	.781	62.2	48.56	.781
Total.....	8	102	5.6	8.0	44.6	118	98	20						40.52	62.0	56.72	.915	65.5	58.17	.888
Shearmen's helpers:																				
G. L. and M. W.....	2	28	6.0	8.2	49.4	33	9	24						20.40	77.8	32.12	.413	101.6	40.86	.402

TABLE C (10).—AVERAGE CUSTOMARY FULL-TIME HOURS WORKED AND AVERAGE ACTUAL EARNINGS PER PAY PERIOD AND PER HOUR, 1922, BY OCCUPATIONS AND DISTRICTS—*TIN-PLATE MILLS*—Concluded.

Occupation and district.	Number of plants.	Positions.			Employees working in scheduled pay period.					Average full-time earnings per week.	Scheduled pay period (15 days).								
		Number.	Average customary full time of employees in the positions.			Number.	Number whose customary full-time hours per week were—					Specified occupation.			Specified and other occupations.				
			Turns per week.	Hours per turn.	Hours per week.		48 and under.	Over 48 and under 60.	60		Over 60 and under 72.	Over 72 and under 84.	Average hours worked.	Average earnings.	Average earnings per hour.	Average hours worked.	Average earnings.	Average earnings per hour.	
Openers, male:																			
Pittsburgh.....	5	96	6.0	8.2	49.1	117	20	97			32.70	76.1	\$50.69	\$0.666	83.0	\$53.27	\$.642		
G. L. and M. W.....	1	48	6.0	8.1	48.7	69	47	22			22.94	27.8	13.16	.471	28.8	13.69	.476		
Total.....	6	144	6.0	8.2	49.0	186	67	119			29.08	58.2	36.75	.631	62.9	38.59	.614		
Openers, female:																			
Pittsburgh.....	1	4	6.0	7.3	44.0	4	4				20.94	81.0	38.52	.476	81.0	38.52	.476		
Tinners:																			
Pittsburgh.....	4	310	5.3	8.1	43.3	347	347				35.20	72.3	58.79	.813	79.4	62.56	.788		
G. L. and M. W.....	2	58	5.3	8.1	43.1	63	63				28.66	54.3	36.08	.665	59.8	38.56	.644		
Total.....	6	368	5.3	8.1	43.3	410	410				34.20	69.6	55.30	.795	76.4	58.87	.770		
Redippers:																			
Pittsburgh.....	2	29	5.5	7.8	43.1	33	33				44.26	73.0	74.93	1.027	80.9	80.95	1.001		
Risers:																			
Pittsburgh.....	2	38	5.3	8.0	42.9	54	54				22.65	57.3	30.26	.528	74.2	38.77	.522		
Branners, male:																			
Pittsburgh.....	3	16	6.0	10.7	65.4	22	10			4	31.78	95.1	46.22	.486	119.3	55.76	.467		
G. L. and M. W.....	3	8	5.8	11.3	64.6	10		2		8	22.80	63.9	22.58	.353	85.6	31.63	.369		
Total.....	6	24	5.9	10.9	65.1	32	10	2		12	28.98	85.4	38.83	.455	108.7	48.22	.443		

Branners, female:																		
Pittsburgh.....	1	6	5.3	7.9	42.0	6	6					12.05	74.1	21.26	.287	74.1	21.26	.287
Assorters, male:																		
Pittsburgh.....	1	6	6.0	10.0	60.0	6			6			36.00	120.0	72.00	.600	120.0	72.00	.600
G. L. and M. W.....	1	15	6.0	7.5	45.0	15	15					28.53	82.9	39.87	.634	82.9	39.87	.634
Total.....	2	21	6.0	8.2	49.3	21	15		6			30.66	79.2	49.05	.619	79.2	49.05	.619
Assorters female:																		
Pittsburgh.....	4	169	5.7	7.5	42.9	190	186		4			15.83	76.1	28.08	.369	79.0	28.92	.366
G. L. and M. W.....	2	30	6.0	7.6	45.6	40	40					15.87	70.5	24.54	.348	70.5	24.54	.348
Total.....	6	199	5.8	7.5	43.3	230	226		4			15.84	75.2	27.47	.365	77.6	28.15	.363
Laborers:																		
Pittsburgh.....	6	83	6.0	10.0	59.9	107		46	45	16		21.56	87.2	31.38	.360	109.7	41.06	.374
G. L. and M. W.....	3	74	6.0	9.8	58.9	124		120		4		21.03	66.1	23.63	.357	92.9	35.17	.379
Total.....	9	157	6.0	9.9	59.4	231		166	45	20		21.28	75.9	27.22	.359	100.7	37.89	.376

TIN-PLATE MILLS.

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Table D (10) shows the number of employees and the average and classified earnings per hour, for heaters and doublers, and the number of employees whose average earnings fell in each group of classified rate per hour in 1922, by districts and all districts combined.

The classified earnings per hour for heaters ranged from 60 cents to \$1.75, with an average of \$1.17 for all employees. Of the 149 heaters 113 earned from \$1 to \$1.50 per hour, 3 earned over \$1.50, and 33 earned less than \$1.

The average hourly earnings for the 322 doublers were \$1.045. The range in earnings was from 40 cents to \$2, with the largest number in any group, 141 or 44 per cent, shown under the classification of "\$1 to \$1.25."

TABLE D (10).—AVERAGE AND CLASSIFIED EARNINGS PER HOUR FOR TWO SELECTED OCCUPATIONS, 1922, BY DISTRICTS — TIN-PLATE MILLS.

[For explanation of this table, see p. 17.]

Occupation and district.	Number of employees.	Average earnings per hour.	Number of employees whose earnings per hour were—									
			40 and under 50 cts.	50 and under 60 cts.	60 and under 70 cts.	70 and under 80 cts.	80 and under 90 cts.	90 cts. and under \$1.	\$1 and under \$1.25.	\$1.25 and under \$1.50.	\$1.50 and under \$1.75.	\$1.75 and under \$2.
HEATERS.												
Pittsburgh.....	116	\$1.211				4	6	7	44	52	3	.....
Great Lakes and Middle West.....	33	1.010			1	3	7	5	11	6	.....	.....
Total.....	149	1.170			1	7	13	12	55	58	3	.....
DOUBLERS.												
Pittsburgh.....	227	1.076	8	12	8	17	8	11	103	55	4	1
Great Lakes and Middle West.....	95	.983		2	.....	5	19	27	38	3	1	.....
Total.....	322	1.045	8	14	8	22	27	38	141	58	5	1

Customary turns per week, hours per turn, and full-time hours per week of those employees who regularly worked 7 days per week regardless of the length of turn, or a turn of 12 or more hours regardless of the number of days per week, either all or part of their time, are presented in detail in Table E (10) for the tin-plate mills department. As stated in the general explanation of this table (p. 17), data are presented only for those employees whose customary working time remained the same throughout the pay period although they may have been engaged in more than one occupation. Details are shown for each district and for all districts combined.

TABLE E (10).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—TIN-PLATE MILLS.

[This table includes only employees who worked but one combination of customary days and hours during pay period. For explanation of table see p. 17.]

DAY TURNS.

Customary turns and hours worked.									Number of employees who worked each specific combination of customary turns and hours, by districts.		
Day turns.					Night turns.				Pitts- burgh.	Great Lakes and Middle West.	Total.
Turns per week.	Hours.				Turns per week.	Hours.					
	Mon- day to Fri- day.	Satur- day.	Sun- day.	Per week.		Mon- day to Fri- day.	Satur- day.	Sun- day.				Per week.
7	12	12	12	84	.....	.....	.....	.....	.....	3	3
7	11	13	16	84	.....	.....	.....	.....	1	.....	1
7	11	11	11	77	.....	.....	.....	.....	1	.....	1
7	11	9	9	73	.....	.....	.....	.....	1	.....	1
7	10½	10½	10½	73½	.....	.....	.....	.....	1	.....	1
7	10	10	10	70	.....	.....	.....	.....	5	5	10
7	10	10	5	65	.....	.....	.....	.....	1	.....	1
7	10	10	12	72	.....	.....	.....	.....	.....	.....	.....
6	10	10	.....	60	.....	.....	.....	.....	1	.....	1
7	9	9	.....	63	.....	.....	.....	.....	.....	1	1
7	8	8	8	56	.....	.....	.....	.....	.....	2	2
6	12	12	12	72	.....	.....	.....	.....	.....	.....	.....
6	12½	11½	.....	74	.....	.....	.....	.....	1	.....	1
6	12	12	.....	72	.....	.....	.....	.....	.....	.....	.....
6	12	11	.....	71	.....	.....	.....	.....	.....	5	7
6	12	10½	.....	70½	.....	.....	.....	.....	6	.....	6
6	12	10	.....	70	.....	.....	.....	.....	1	.....	9
6	12	9½	.....	69½	.....	.....	.....	.....	1	.....	1
6	12	9	.....	69	.....	.....	.....	.....	1	.....	1
6	12	8	.....	68	.....	.....	.....	.....	6	.....	6

NIGHT TURNS.

.....	.....	.....	.....	.....	7	13	6½	13	84½	1	.....	1
.....	.....	.....	.....	.....	7	12	12	12	84	.....	1	1
.....	.....	.....	.....	.....	6	12	12	12	72	2	.....	2
.....	.....	.....	.....	.....	6	12	.....	12	72	7	.....	9
.....	.....	.....	.....	.....	6	12	.....	10	70	2	.....	2
.....	.....	.....	.....	.....	6	12	.....	6	66	.....	2	2

DAY AND NIGHT TURNS—ALTERNATING WEEKLY.

7	12	12	12	84	7	12	12	12	84	2	14	16
7	12	12	12	84	6	12	12	12	72	.....	.....	9
6	12	12	12	72	7	12	12	12	84	9	.....	2
7	12	12	12	84	6	12	12	.....	72	.....	2	2
7	12	12	12	84	6	12	.....	12	72	16	.....	16
7	12	12	6	78	7	12	6	12	78	.....	2	2
7	11	11	11	77	6	13	.....	13	78	.....	2	2
7	10	10	10	70	7	14	14	14	98	17	.....	17
7	10	10	5	65	6	10	.....	5	55	.....	2	2
7	8	8	8	56	7	8	8	8	56	.....	68	65
.....	.....	.....	.....	.....	6	8	8	.....	48	.....	.....	.....
.....	.....	.....	.....	.....	6	8	8	.....	48	.....	3	3
.....	.....	.....	.....	.....	6	8	8	.....	48	.....	4	.....
6	12	12	12	72	6	12	12	12	72	19	.....	23
6	12	12	.....	72	6	12	12	.....	72	.....	2	2
6	12	12	.....	72	6	12	.....	12	72	263	.....	266
6	12	12	.....	72	6	12	6	.....	66	.....	39	39
6	12	12	.....	72	5	12	.....	.....	60	3	.....	10
6	12	11	.....	71	6	12	.....	12	72	28	.....	28
6	12	11	.....	71	6	12	6	.....	66	.....	8	8
6	12	11	.....	71	5	12	.....	.....	60	.....	5	5
6	12	10½	.....	70½	6	12	.....	10½	70½	.....	2	2
6	12	10	70	6	12	12	72	12	67
6	12	9½	69½	6	12	12	72	3	3
6	12	9	69	6	12	12	72	20	29
6	12	9	69	4	12	48	5	5

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TABLE E (10).—CUSTOMARY TURNS PER WEEK AND HOURS PER TURN OF EMPLOYEES WHO WORKED 7 TURNS PER WEEK OR 12 OR MORE HOURS PER DAY ALL OR PART OF THE TIME, 1922, BY DISTRICTS—TIN-PLATE MILLS—Concluded.

DAY AND NIGHT TURNS—ALTERNATING WEEKLY—Concluded.

Customary turns and hours worked.										Number of employees who worked each specified combination of customary turns and hours, by districts.		
Day turns.					Night turns.							
Turns per week.	Hours.				Turns per week.	Hours.				Pitts-burgh.	Great Lakes and Middle West.	Total.
	Mon-day to Fri-day.	Satur-day.	Sun-day.	Per week.		Mon-day to Fri-day.	Satur-day.	Sun-day.	Per week.			
6	12	8	.....	68	6	12	.....	12	72	.....	8	8
6	12	7	.....	67	6	12	.....	12	72	5	.....	5
6	12	6	.....	66	6	12	.....	12	72	.....	5	5
6	12	6	.....	66	5	12	.....	.....	60	55	.....	55
6	11	11	.....	66	6	13	.....	13	78	33	8	41
6	11	6	.....	61	7	13	6	13	84	.....	2	2
6	10	10	.....	60	6	14	.....	14	84	53	.....	53
6	10	10	.....	60	6	12	.....	12	78	.....	.....	78
6	10	10	.....	60	5	12	.....	.....	60	45	.....	45
6	10	6	.....	56	6	¹ 14	.....	14	88	4	.....	4
5	10	.....	.....	50	5	12	.....	.....	60	25	.....	25

SUMMARY.

Item.	Pitts-burgh district.	Great Lakes and Middle West district.	Total.	Per cent of employees who worked but 1 combination of days and hours.
Total tin-plate mill employees.....	5,968	3,024	8,992	.....
Employees who worked one combination of days and hours only.	5,661	2,818	8,479	100
7-day week or straight or average day of 12 or more hours all or part of the time.....	829	239	1,063	13
7-day week all of the time.....	30	28	58	1
7-day week part of the time.....	26	79	105	1
Straight average day of 12 or more hours all of the time.....	483	55	538	6
Straight or average day of 12 or more hours part of the time...	336	101	437	5
7-day week and straight or average day of 12 or more hours all of the time.....	21	18	39	(²)

¹ Worked 18 hours on Friday night.
² Less than 1 per cent.

Of the total number of tin-plate-mill employees reported, 8,479 worked but one combination of customary days and hours. Of these 8,479 employees, 1,063, or 13 per cent, regularly worked a 7-day week or a straight or average day of 12 or more hours all or part of the time, 115 working days only, 17 working nights only, and 936 alternating between day and night work. Six per cent (538) worked a straight or average day of 12 or more hours all of the time, while less than 1 per cent (39) worked 7 days per week and a straight or average day of 12 or more hours all of the time.

