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U. S. DEPARTMENT OF LABOR  
W. B. WILSON, Secretary  
WOMEN'S BUREAU  
MARY ANDERSON, Director

BULLETIN OF THE WOMEN'S BUREAU, NO. 15

SOME EFFECTS OF LEGISLATION  
LIMITING HOURS OF WORK  
FOR WOMEN



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1921

[PUBLIC—No. 259—66TH CONGRESS.]

[H. R. 13229.]

AN ACT To establish in the Department of Labor a bureau to be known as the Women's Bureau.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there shall be established in the Department of Labor a bureau to be known as the Women's Bureau.

SEC. 2. That the said bureau shall be in charge of a director, a woman, to be appointed by the President, by and with the advice and consent of the Senate, who shall receive an annual compensation of \$5,000. It shall be the duty of said bureau to formulate standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment. The said bureau shall have authority to investigate and report to the said department upon all matters pertaining to the welfare of women in industry. The director of said bureau may from time to time publish the results of these investigations in such a manner and to such extent as the Secretary of Labor may prescribe.

SEC. 3. That there shall be in said bureau an assistant director, to be appointed by the Secretary of Labor, who shall receive an annual compensation of \$3,500 and shall perform such duties as shall be prescribed by the director and approved by the Secretary of Labor.

SEC. 4. That there is hereby authorized to be employed by said bureau a chief clerk and such special agents, assistants, clerks, and other employees at such rates of compensation and in such numbers as Congress may from time to time provide by appropriations.

SEC. 5. That the Secretary of Labor is hereby directed to furnish sufficient quarters, office furniture, and equipment for the work of this bureau.

SEC. 6. That this act shall take effect and be in force from and after its passage.

Approved, June 5, 1920.

U. S. DEPARTMENT OF LABOR  
W. B. WILSON, Secretary  
**WOMEN'S BUREAU**  
MARY ANDERSON, Director

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UNITED STATES FEDERAL RESERVE SYSTEM



FOR WOMEN  
CIVILIC WORKS OF ART  
SOME FIELD OF IDENTIFICATION

OFFICE OF THE WOMEN'S RIGHTS

THE FEDERAL RESERVE BANK OF ST. LOUIS

ST. LOUIS, MISSOURI

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CONFIDENTIAL

## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF LABOR,  
WOMEN'S BUREAU,  
*Washington, January 14, 1921.*

SIR: Transmitted herewith is a report giving the results of an investigation of some effects of legislation limiting the hours of work for women. This investigation was undertaken for the purpose of finding out to what extent, if any, women's opportunities had been limited on account of protective legislation.

A study was made in two States, Massachusetts and New Jersey. Massachusetts has a 48-hour weekly law for women, which became effective in 1919. New Jersey has a 60-hour weekly law, which has been in effect since 1912. The facts were obtained for the year 1919. The figures of the number of women were taken for one week in April and one week in October of that year.

Valuable assistance was given by both the Massachusetts Department of Labor and Industries and the New Jersey State Department of Labor. The investigation was made by Mrs. Ethel L. Best and Miss Helen Bryan. The report was prepared by Miss Mary N. Winslow.

Respectfully submitted.

MARY ANDERSON, *Director.*

Hon. W. B. WILSON,  
*Secretary of Labor.*



# SOME EFFECTS OF LEGISLATION LIMITING HOURS OF WORK FOR WOMEN.

## INTRODUCTION.

*Section 1. No female shall be employed in any manufacturing, mechanical or mercantile establishment, laundry, hotel, public lodging house, apartment house, hospital, place of amusement or restaurant or telegraph or telephone establishment or office or by any express or transportation company in this State, more than eight hours during any one day or more than forty-eight hours in one week. (California, acts of 1911, ch. 258 amended acts of 1913, ch. 352.)*

Labor laws regulating the employment of women in industry, such as the one just quoted, are becoming more and more general in the United States. Only five States—Iowa, New Mexico, Alabama, Florida, and West Virginia—do not regulate *in any way* the hours which women may work,<sup>1</sup> while the 8-hour day is required for women in some or all branches of industry in eight States, one Territory, and the District of Columbia. The steady increase in legislation of this type has been accompanied by a sudden broadening of the sphere of women's activities in industry brought about by the war. The combination of these two movements, one putting increased protection about the woman worker, while the other exposed her presumably to greater risks but at the same time gave her greater freedom and opportunity, has focused attention upon the possibilities for adjusting the requirements of industry to conform with necessary standards of protection for women workers.

It has seemed possible that special legislation regulating their hours and conditions of work might hamper the free use of women in industry. Substitution of men or children on work formerly done by women might accompany legislation reducing women's hours or raising their wages, and might result in restricted opportunity for them. There is also the possibility that industries themselves might suffer if obliged to operate under shorter hours and higher wages imposed by law while competing with rivals in other localities where there are no such restrictions.

On the other hand, the beneficial effect of special legislation for women has seemed so great that it would be most disastrous to condemn it without a full and careful examination of the arguments brought against it. These arguments have seemed logical and have

<sup>1</sup> Indiana does not regulate daily hours in any way, but prohibits work for women in manufacturing between 10 p. m. and 6 a. m.

been accepted by many persons. There has not been, however, any extensive collection of facts upon which to base definite conclusions and form policies regarding such an important matter. It is for this reason that the Women's Bureau undertook a brief survey of the effect of legislation limiting hours of work for women.

The present memorandum deals primarily with the effect upon women of legislation limiting their hours of work as observed and contrasted in two industries in two States. Additional information which was collected for other industries in either State is presented also, as any material bearing on the subject seemed too valuable to discard.

The two States chosen as the field of this investigation each employed large numbers of women in the same industries and under similar labor conditions. In one, New Jersey, a 60-hour weekly law had been in effect since 1912. The other, Massachusetts, had made effective a 48-hour law for women in 1919. Facts were obtained for the year 1919, and figures of numbers employed were taken for one week in April and one week in October of that year. Two industries were chosen, rubber manufacturing and the making of electrical appliances (including electric lamps). These industries were selected because their hours and wages were not affected by organization and because women were employed in them on several operations where men and children also worked, thus making possible a substitution of men or children if desired.

A few textile plants also were visited in Massachusetts and New Jersey, but conditions in the textile industry have only limited significance in relation to legislation, as the industry adjusts the questions and wages through mutual agreement between employers and employees, and the change to a 48-hour week had been made by this means in Massachusetts before the passage of the 48-hour bill.

The survey was begun February 3 and completed May 17, 1920.

#### METHOD AND SCOPE OF INVESTIGATION.

The number of men, women, and children employed in each establishment visited in Massachusetts was taken for April, three months before the law went into effect, and October, three months after it had become effective. In a few instances some other spring or fall months were chosen as more significant, being unaffected by local or seasonal conditions. Numbers employed during the same period, April and October, 1919, were recorded in New Jersey. The number of children was so small and the figures as to the extent of their employment so difficult to secure accurately that it has seemed unnecessary to include them in this study.

Statements and opinions were obtained in both States as to general or local conditions affecting the employment problems. The number

of hours of decrease in each plant which shortened hours also was obtained. Records were made of the firms that increased their time or piece rates, or both, when hours were shortened, and the number of women that were affected. Figures and opinions on comparative output before and after hours were decreased were also obtained whenever possible.

Eighteen establishments manufacturing rubber goods and 19 manufacturing electrical appliances were visited in New Jersey, while records were secured in Massachusetts from 15 establishments manufacturing rubber goods and 13 manufacturing electrical appliances.

The significance of the material gathered from these sources depends very largely on the period during which the reduction of hours was made. If in Massachusetts it was found that factories had reduced their hours without waiting for the law to compel this action, then the results of this reduction could in no way be laid to the operation of the law. If the plants had always been running on a 48-hour schedule, making no reductions necessary, there would naturally be no significant information available. Table I shows the time of the reduction of hours and the number of plants covered by the investigation in two States.

TABLE I.—Plants covered by investigation, showing period of reduction of hours and number of men and women employed in October, 1919.

## NEW JERSEY.

	Fac- tories reporting.	Number of women employed in Octo- ber, 1919.	Number of men em- ployed in October, 1919.
No decrease in hours reported.....	16	1 1,363	14,379
Decrease at some period other than April-October, 1919.....	13	2 2,950	27,280
Decrease between April and October, 1919.....	8	4,058	4,243
Total.....	37	3 8,371	3 15,902

## MASSACHUSETTS.

No decrease in hours reported.....			
Decrease at some period other than April-October, 1919.....	3	4 9	4 81
Decrease between April and October, 1919.....	25	11,998	31,574
Total.....	28	4 12,007	4 31,655

<sup>1</sup> Four plants did not report numbers.

<sup>2</sup> Three plants did not report numbers.

<sup>3</sup> Seven plants did not report numbers.

<sup>4</sup> Two plants did not report numbers.

In Massachusetts every one of the establishments visited had reduced its hours at some time, and therefore could give certain information about the effect of such reduction on numbers of women employed, rates of pay, and production. The fact that 28 plants had reduced their hours either immediately before or after the 48-hour law went into effect seems to indicate that the law was largely

responsible for the reduction and justifies the use of material gathered from these plants upon which to base conclusions about the effect of the law.

The value of the facts gathered in New Jersey for comparison with the Massachusetts figures is also indicated in this table. Only 8 of the 37 plants visited changed their hours during the period from April to October, 1919, when the law was bringing about such wholesale reductions in hours in the Massachusetts branches of the same two industries. Increases or decreases in the number of women employed during this period can be laid, therefore, chiefly to conditions in the industry and will serve as a basis against which to balance the changes in Massachusetts. Twenty-one plants in New Jersey had reduced hours without legal compulsion and it was possible to secure from them facts on rates of pay and production, which information bears directly upon the effect on the labor force of any reduction in hours, although the effect of a law is not shown.

#### REASONS FOR REDUCTION OF HOURS IN NEW JERSEY.

The general tendency throughout the country toward shorter working hours is illustrated very clearly in New Jersey, where more than half the plants had reduced their hours without legal compulsion. There were two main reasons given for making the change to shorter hours when this change was not brought about by law. One typical reason was given by the manager who said that he had reduced his hours because neighboring plants manufacturing the same product worked shorter hours and he could not get labor without having a shorter day. This result of competition between establishments running short and long hours contradicts the claim of those who say that a plant which works short hours will be driven out of business when it must compete with a rival who can operate more hours a day.

Another reason frequently given by the employers in New Jersey for shortening their hours was that they "felt it would make the workers more interested and would not hurt production." And the manufacturer was not in the minority who added, "the result has proved that we were right." This reaction to the shorter workday was found in many cases and was illustrated most clearly by one employer who stated that he believed that by working fewer hours and paying higher wages he got better and more efficient girls and his turnover was almost negligible. He said that although it probably cost him 5 cents an hour more for each girl he made this up easily in increased production because of greater efficiency, fewer mistakes, a better class of more highly skilled girls, and a lower labor cost because of the small labor turnover.

### VARIATION IN EMPLOYMENT OF MEN AND WOMEN BETWEEN APRIL AND OCTOBER, 1919.

Table II shows the change between April and October in the number and proportion of men and women employed in all of the establishments visited. The figures in this table assume special significance when it is remembered that 25 of the 28 factories in Massachusetts, in contrast to only 8 of the 37 factories in New Jersey, reduced their hours during this period.

TABLE II.—*Variation between April and October, 1919, in number of men and women employed in the rubber and electrical industries.*

#### NEW JERSEY.

Industry.	Number of employees.					
	Men.		Women.		Total.	
	April.	October.	April.	October.	April.	October.
Rubber: Number.....	6,771	7,493	1,570	1,583	8,341	9,076
Per cent.....	81.2	82.6	18.8	17.4		
Electrical: Number.....	7,613	8,409	7,068	6,788	14,681	15,197
Per cent.....	51.9	55.3	48.1	44.7		
Total: Number.....	14,384	15,902	8,638	8,371	23,022	24,273
Per cent.....	62.5	65.5	37.5	34.5		

#### MASSACHUSETTS.

Rubber: Number.....	14,670	16,008	6,765	7,131	21,435	23,139
Per cent.....	68.4	69.2	31.6	30.8		
Electrical: Number.....	12,295	14,847	3,954	4,576	16,249	19,423
Per cent.....	75.7	76.4	24.3	23.6		
Total: Number.....	26,965	30,855	10,719	11,707	37,684	42,562
Per cent.....	71.6	72.5	28.4	27.5		

<sup>1</sup>One factory employing 800 men and 300 women gave no figures for April and therefore is omitted from this table.

In the appendix to this report detailed figures for each plant in each industry and State are given. Table II is a summary of these four itemized accounts.

The number of women employed in New Jersey decreased 3.1 per cent, while the number in Massachusetts increased 9.2 per cent, between April and October.

The total number of workers increased in both industries in both States. In New Jersey the total increase amounted to 1,251, or 5.4 per cent of the number in April; in Massachusetts the total increase in numbers was 4,878, an increase of 12.9 per cent. It is a very striking fact that with conditions in the two industries causing in both States an increase in the total number of employees, there was a decrease in the number of women employed in New Jersey, while in Massachu-

setts there was an increase in the number of women employed almost proportional to the increase for all employees. In this case in Massachusetts a restriction of the use of women did not accompany a restriction of their hours.

The figures giving, by industries, the numbers and percentages of men and women employed show the relative importance of women as a labor factor in the two States. In Massachusetts women constituted nearly one-third of the workers in the rubber industry, while in New Jersey they were less than one-fifth of the total number employed. On the other hand, 44.4 women in every 100 workers were employed in the electrical industries investigated to New Jersey, while in Massachusetts the women in the electrical industries amounted to only 23.4 out of every 100 workers.

These differences in the relative importance of women in the two industries and States, which offset each other in the totals for both industries in each State, are due mainly to the difference in the product in the two States. The larger proportion of women in the Massachusetts rubber factories is explained by the fact that gum shoes are produced in large quantities in that State, and this work is chiefly done by women, while the New Jersey factories manufacture tires, hard rubber, rubber hose, belting, etc., requiring heavy lifting and molding, on which processes men are employed. The smaller proportion of women in the Massachusetts than in the New Jersey electrical appliance factories is chargeable also to the product. In Massachusetts the factories visited were chiefly employed in making electric motors, magnetos for starting and lighting systems, and rheostats, which is work on which more men than women are used, while in New Jersey electric lamps, filaments, and small motors were manufactured to a large extent. This is lighter work and requires more women. The Massachusetts plants, however, as well as those in New Jersey, reported a shortage of women workers.

In studying the effect of any outside force on the numbers of women employed, it is the change in proportion which is of the most real significance. A change in numbers would not necessarily show that the importance of women in the industry had increased or decreased; it might only mean that the industry had enlarged or curtailed its activities as a whole, leaving the status of its women employees unchanged. A change in the proportion of women employed, however, is a more reliable indication of a change in their status in the industry, although it may mean that the product has been changed, necessitating a greater or less use of women. This fact was taken into consideration during the investigation, and careful inquiry was made as to any changes in process or product which would have affected the proportion of women employed. No such condition was discovered in any of the plants visited.

The proportion of women employed decreased  $3\frac{1}{10}$  per cent in New Jersey, but only nine-tenths of 1 per cent in Massachusetts, between April and October, 1919.

These figures show very conclusively that, in spite of the law regulating their hours of work, the relative importance of women in two Massachusetts industries was not lessened in anything like the same degree as it was during the same period in New Jersey when there was no law to hamper their increase in importance to the industry.

This difference in the change in status of the women in New Jersey and Massachusetts is all the more arresting when the extent of the reduction in hours in the factories in the two States is considered. Table III shows that 11 of the 25 factories (nearly 50 per cent) in Massachusetts which reduced hours between April and October, 1919, made a reduction of over six hours in the working week, while in New Jersey, where the proportion of women decreased more than in Massachusetts, five of the eight factories (or more than 50 per cent) which reduced hours between April and October made reductions of less than six hours. The Massachusetts factories not only reduced hours in greater numbers but also to a greater extent than the New Jersey factories, while the proportion of women employed decreased less than one-third as much.

TABLE III.—Number of factories which reduced hours between April and October, 1919, by number of hours reduced per week.

NEW JERSEY									
Industry.	Number of hours reduced.								Total.
	1 and under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 6.	6 and under 7.	7 and under 8.	8 and under 9.	
Rubber.....					2		1	1	4
Electrical.....		1	2			1			4
Total.....		1	2		2	1	1	1	8
MASSACHUSETTS.									
Rubber.....		3	1	1		8	3		16
Electrical.....	3	4	1	1	1				10
Total.....	3	7	2	2	1	8	3		26

In comparing the conditions in the two States it is not only the number of factories which reduced hours which is important for consideration but also the number of women employed in those factories. A very much larger number of women were employed in the factories reducing hours in Massachusetts than in New Jersey and their hours were reduced to a greater extent. Table IV shows the change in numbers and in proportion of men and women employed

in the factories included in the investigation which reduced hours between April and October, 1919.

TABLE IV.—Number and per cent of men and women employed before and after change of hours in factories which reduced hours between April and October, 1919, by number of weekly hours reduced.

Hours reduced.	NEW JERSEY.						MASSACHUSETTS.					
	Number of persons employed in April.		Number of persons employed in October.		Increase(+) or decrease (-) April to October.		Number of persons employed in April.		Number of persons employed in October.		Increase (+) or decrease (-) April to October.	
	Men.	Wom-en.	Men.	Wom-en.	Men.	Wom-en.	Men.	Wom-en.	Men.	Wom-en.	Men.	Wom-en.
1 hour and under 2:												
Number.....							1,201	731	2,039	728	+ 838	- 3
Per cent.....							62.2	37.8	73.7	26.3	+ 11.5	-11.5
2 hours and under 3:												
Number.....							15,773	3,679	18,217	4,470	+2,444	+ 791
Per cent.....							81.1	18.9	80.3	19.7	- 0.8	+ 0.8
3 hours and under 4:												
Number.....	978	3,907	871	3,122	-106	-785	224	104	213	109	- 11	+ 5
Per cent.....	20.0	80.0	21.8	78.2	+1.8	-1.8	68.3	31.7	66.1	33.9	- 2.2	+ 2.2
4 hours and under 5:												
Number.....							68	12	70	17	+ 2	+ 5
Per cent.....							85.0	15.0	80.5	19.5	- 4.5	+ 4.5
5 hours and under 6:												
Number.....	879	264	957	281	+ 78	+ 17	43	227	33	180	- 10	- 47
Per cent.....	76.9	23.1	77.3	22.7	+0.4	-0.4	15.9	84.1	15.5	84.5	- 0.4	+ 0.4
6 hours and under 7:												
Number.....	435	329	479	328	+ 44	- 1	8,899	5,685	9,620	5,911	+ 721	+ 226
Per cent.....	56.9	43.1	59.4	40.6	+2.5	-2.5	61.0	39.0	61.9	38.1	+ 0.9	- 0.9
7 hours and under 8:												
Number.....	984	85	1,222	90	+238	+ 5	672	270	582	283	- 90	+ 13
Per cent.....	92.0	8.0	93.1	6.9	+1.1	-1.1	71.3	28.7	67.3	32.7	- 4.0	+ 4.0
8 hours and under 9:												
Number.....	435	33	362	22	-123	- 11						
Per cent.....	93.6	6.4	94.3	5.7	+0.7	-0.7						
Total:												
Number.....	3,761	4,618	3,892	3,843	+131	-775	26,880	10,708	30,774	11,698	+3,894	+ 990
Per cent.....	44.9	55.1	50.3	49.7	+5.4	-5.4	71.5	28.5	72.5	27.5	+ 1.0	- 1.0

<sup>1</sup> One establishment employing 351 men and 215 women reduced hours during April and October, but did not report the extent of the reduction, so is not included in this table.

<sup>2</sup> One electrical establishment employing 300 women and 800 men reduced hours between April and October, but did not give the number employed in April, so is not included in this table.

Over 5,600 women were employed in April in eight Massachusetts factories which reduced their hours six but less than seven a week, but in October the same factories were employing over 5,900 women. In New Jersey a reduction of between three and four hours a week affected the largest group of women, 3,907 employed in April in two electrical factories, and in October these same factories employed only 3,122 women.

Clearly the Massachusetts law does not seem to have placed the women of that State in a less desirable relationship to industry than that held by their sisters working in similar industries in the neighboring State. A greater number of women had their hours reduced to a greater extent in Massachusetts than in New Jersey, but in spite of that fact the proportion of Massachusetts women was reduced only nine-tenths of 1 per cent while the proportion of New Jersey women dropped more than 3 per cent during the same six months.

### EFFECT ON MEN'S HOURS OF DECREASE IN WOMEN'S HOURS.

Another very important aspect of the reduction of hours for women is that it is frequently accompanied by a corresponding shortening of hours for men. The introduction of women into factory or workshop has often resulted, because of legislative requirements surrounding the conditions under which women work, in the improvement of general conditions for all employees, men as well as women. Just as the polling place has become cleaner and more presentable since women have started using it, so has the factory in many instances shown the influence of the higher standards which are imposed where women work. It is most striking to see in the table next presented that far from bringing women to work as the unsuccessful competitors of men who could work longer hours, the reduction of hours for women has in many cases given the men a "free ride" to shorter working hours for themselves.

TABLE V.—Establishments where hours were reduced for men as well as women, by number of men employed in October, 1919, and by number of hours reduced.

#### NEW JERSEY.

Hours reduced.	Number of factories reducing hours—		Number of men employed in October in factories reducing hours—	
	During period of investigation.	At some other time.	During period of investigation.	At some other time.
1 and under 2 hours.....				
2 and under 3 hours.....		4		1 2, 094
3 and under 4 hours.....	2		872	
4 and under 5 hours.....		1		2, 623
5 and under 6 hours.....	1		699	
6 and under 7 hours.....	1	3	479	935
7 and under 8 hours.....	1	1	1, 222	90
8 and under 9 hours.....	3		362	
9 and under 10 hours.....				
10 hours and over.....		1		
Total.....	6	10	3, 634	5, 742

#### MASSACHUSETTS.

1 and under 2 hours.....	<sup>4</sup> 1		51	
2 and under 3 hours.....	6	1	14, 238	( <sup>e</sup> )
3 and under 4 hours.....	2		213	
4 and under 5 hours.....	1		70	
5 and under 6 hours.....	1		33	
6 and under 7 hours.....	<sup>6</sup> 8	1	9, 620	( <sup>e</sup> )
7 and under 8 hours.....	2	1	319	81
Total.....	21	3	24, 544	81

<sup>1</sup> Numbers were not reported in one plant.

<sup>2</sup> In one plant hours for men were reduced from 54 to 48, for women from 5½ to 48.

<sup>3</sup> When hours for women were reduced from 56 to 48, hours for men were reduced from 57 to 48 per week.

<sup>4</sup> In one of these establishments hours for men were reduced 2½ per week when hours for women were reduced 7 per week.

<sup>5</sup> Not reported.

<sup>6</sup> Figures taken for November.

When hours were reduced for women they were also reduced for 58.9 per cent of the men in New Jersey and for 77.7 per cent of the men in Massachusetts.

Twenty-four of the 28 factories that reduced hours in Massachusetts either during the period from April to October, 1919, or at some other time had reduced hours for men as well as women, and in 16 of the 21 factories in New Jersey which had reduced their hours, men shared with the women in the reduction. No facts were discovered in this investigation which would explain the larger proportion of men in Massachusetts than in New Jersey who shared in the reduction of hours. One reason, however, probably is the general recognition which is coming about that the 8-hour day is not an abnormal requirement and should be the right of every worker, man or woman. Naturally this recognition is more general in a State like Massachusetts where the 8-hour day as a standard is sufficiently established to have been incorporated in the law for women's hours than in New Jersey where the 10-hour day for women is still accepted as a reasonable basis for work.

Of course many establishments in New Jersey have accepted the trend of the times and have put their employees in the army of 8-hour-day workers, but a remarkable lack of appreciation of the advantages of the shorter working day was shown by several of the managers who were interviewed during the course of the investigation. It seemed extraordinarily inconsistent, but was unfortunately not rare, for the office employee who was working 8 hours a day at clerical work to insist that for the factory workers in her establishment "10 hours a day and 55 a week is not a bit too long; people want to get off with nothing these days. Ten hours is only a fair day's work." Ten hours a day, 55 a week—for the other fellow—was a good idea.

### WAGES AND REDUCTION OF HOURS.

Eight-hour shifts are of questionable value to a worker if to obtain an adequate wage she is obliged to seek supplementary work or to speed up her work in the factory until, because of her increased efforts, the sum total of her fatigue is as great as under the longer hours. The testimony of the manager of one plant running on three 8-hour shifts showed that adequate wages must accompany the 8-hour day if the benefit of the shorter hours in the plant is not to be canceled by supplementary work taken outside to eke out an insufficient wage. The girls on the 7 a. m. to 3 p. m. shift, he said, were often found to be working elsewhere at night, while those on the 3 p. m. to 11 p. m. shift were chiefly young married women who had little children to look out for, and many of them took in washing besides working in the factory.

If hours are shortened and time rates are not increased, the time worker's weekly wage naturally is lessened. If piece rates are not increased, the worker may earn less or may increase her speed while at work so that an equal amount is produced during the shorter work period, thereby maintaining her weekly wage at its previous level.

TABLE VI.—Changes in wage rates in establishments reducing hours, by number of weekly hours reduced.

## NEW JERSEY.

Number of weekly hours reduced.	Number of establishments which gave—					Total.
	No increase in rates.	Increase in time rates only.	Increase in piece rates only.	Increase in time and piece rates.	Noreport.	
2 and under 3.....	1	1	1	1		4
3 and under 4.....				2		2
4 and under 5.....		1		1		2
5 and under 6.....				3		3
6 and under 7.....		1		3		4
7 and under 8.....		2		1		3
8 and under 9.....				1		1
Over 10.....				1		1
Not reported.....				1		1
<b>Total.....</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>14</b>		<b>21</b>

## MASSACHUSETTS.

1 and under 2.....		1		2		3
2 and under 3.....		2		4	1	7
3 and under 4.....	1			1		2
4 and under 5.....				1		1
5 and under 6.....		1				1
6 and under 7.....		1	1	7	1	10
7 and under 8.....		2		2		4
<b>Total.....</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>17</b>	<b>2</b>	<b>28</b>

Table VI shows that more than one-half of the establishments in each State increased both their time and piece rates when hours were reduced. Seven of the 28 plants in Massachusetts and 5 of the 21 in New Jersey increased only their time rates, expecting the pieceworkers to make up the extra wage through an increased hourly output. In one factory manufacturing rubber goods in Massachusetts, when hours were reduced from 54 to 48 an increase of pay was given equivalent to three hours a week, but the workers were expected to make up the other three hours' pay through increased production. Similar arrangements were found in various other factories, but a straight increase in time and piece rates was more often the rule than the exception.

Among the group of employers who increased only the time rates when hours were decreased there seemed to be a perfect confidence in the ability of the pieceworker to look out for her own wage increase. "What has increased pay got to do with decreased hours?"

exclaimed one manager. "My men were told they must keep up production and turn out the same amount. Our output was not reduced by our shorter hours." This point of view, and the fact that the pieceworkers frequently justified the expectations of their employers and increased their rate of production, accounts for the large proportion of the plants (one-fourth) which increased only the rates of the time workers.

### PRODUCTION AND REDUCTION OF HOURS.

To what extent the increases in wages were repaid to the management in the form of increased production can be shown in this report only by an account of the statements made by various managers. It was impossible to make a study of production under the short and long hours, but the subject was carefully gone over with the management of each plant and any information or opinions vouchsafed were recorded. Table VII shows the effect of shorter hours on production as stated by the employers in 14 New Jersey and 21 Massachusetts establishments.

TABLE VII.—*Effect on production of shortened hours, according to opinion of management in establishments which shortened hours, by number of weekly hours reduced.*

#### NEW JERSEY

Number of hours reduced.	Number of establishments where production was—			Total.
	Increased.	Maintained.	Decreased.	
2 and under 3.....		1 <sup>3</sup>		3
3 and under 4.....		1		1
5 and under 6.....		1 <sup>2</sup>	2 <sup>1</sup>	3
6 and under 7.....		2	2	4
7 and under 8.....	2 <sup>3</sup>	1		3
Total.....	2	9	3	14

#### MASSACHUSETTS.

1 and under 2.....		1		1
2 and under 3.....		2	2	4
3 and under 4.....	1	1	1	3
4 and under 5.....	4 <sup>1</sup>	1		1
5 and under 6.....			4	7
6 and under 7.....		3 <sup>3</sup>	4	4
7 and under 8.....	2		2	4
Total.....	4	8	9	21

<sup>1</sup> In one plant production was maintained in some departments only.

<sup>2</sup> Decrease not due to change in hours.

<sup>3</sup> In one plant production increased in some departments only.

<sup>4</sup> Eight per cent additional women workers were employed.

<sup>5</sup> In a few departments only, in one plant.

In 12 of the 21 establishments in Massachusetts production was increased or maintained in spite of the reduction in hours, while 11 of the 14 establishments in New Jersey reported increased or main-

tained production. There seems to have been no definite relationship between production and the number of hours decreased. The plants which maintained or increased production reduced their hours anywhere from one to eight a week, while the plants which reported a decrease in production decreased hours from two to eight a week.

Whether a report would be of decreased or increased production depended occasionally upon the amount of time which had elapsed since the reduction in hours. The manager of one electrical plant in Massachusetts said that when he reduced his hours from 53 to 48 a week some of the operatives came up to their former records for production within two weeks after hours were shortened, others took a month to catch up, and he thought a few slow ones would never equal their former records. The work about which these statements were made was winding filaments and operating machines for making and filling electric-light bulbs; on both of which processes the human element and efficiency are great factors.

This gradual increase of production after a reduction of hours was not a universal experience, however. Many employers reported an immediate stimulation of production accompanying a reduction of hours, followed by a decline in production after the workers had become accustomed to the new schedule.

The variability of the effect of shorter hours when applied to different processes was strikingly illustrated by accounts from the textile trade, where the work is so largely governed by machinery and the quality of material that the efforts of the worker have a relatively slight effect on the production rate. The opinion given by one expert on industrial statistics was that in the textile industry output would probably show a falling off in proportion to the number of hours that had been reduced, as the machines were already speeded up to the limit and any increased speed would simply result in breaking threads. In candy or box making he thought the comparative output between the 54 and 48 hour week would show up better, as in these industries there are more hand processes and more piecework.

This statement was borne out by several girls who were employed in cotton mills and who agreed that a weaver could not turn out as many cuts a week at present as under the old 54-hour week. They felt, however, that some of this decrease in production was due to a poorer quality of cotton which was being used. Although the looms had been speeded up since the reduction in hours, continual breaking of threads, caused by the increased speed and poor quality of cotton, had prevented an increase in production. This constant breaking of the threads and the more rapid operation of the machinery made the work much more difficult and fatiguing, so that, in their opinion, the shorter hours were of hardly any benefit at all. On the

other hand, a representative of the National Amalgamation of Textile Workers asserted that for a weaver there was a special advantage in the shorter work day. Weaving requires daylight, and for that reason the last hour of work under artificial light amounts to practically nothing for several months during the winter.

While the production figures for the weaving process seem to indicate that increased production is more difficult to bring about where the rate of the machine largely governs the activities of the worker, figures from the same industry but from other processes indicate that when the efficiency of the worker is an important factor the rate of production is very likely to increase with a decrease of hours. One process in the textile industry which is dependent wholly on the deftness of the worker is called "reneedling." As its name implies, this process consists of threading a vast number of needles and requires good eyesight, great concentration, and well coordinated movements of the hands. One girl reported to the investigator that she had done this work for six years. She said she could do much more work under the 48 than she did under the 54 hour week. A year ago she said she could average about 32,000 needles a day, while under the 48-hour week she could thread from 39,000 to 41,000 each day.

It is on this kind of work that the most immediate result can be seen when hours are shortened, and there are more instances of this sort among the rubber and electrical than among the textile industries. One very striking statement was made by a New Jersey manufacturer of electric lamps. He said that during the preceding summer, when business was slack and they wanted a decrease in production of 5,000 lamps a week, they decreased their hours from 50 to 44 a week. In spite of the six hours decrease the number of lamps produced per week remained at the original amount, no loss of production having occurred at all. Some months later it was decided to decrease hours permanently from 50 to 48 a week; when this reduction was made a slight falling off occurred in the machine departments, but that was made up in the hand departments, so that the total output of the factory remained the same.

The manager of a plant in New Jersey making rubber belting, hose, and molded goods reported an increase in output each time hours were reduced, and gave the following figures covering these increases of output per month per individual:

Year.	Hours.	Average pounds produced per month.
1917.....	57½	1,014
1918.....	55	1,031
1919.....	48	1,033

Thus with only  $2\frac{1}{2}$  hours' decrease in 1918 the average monthly output per man increased 1.7 per cent. In 1919, when there was a decrease of 7 hours weekly, the monthly output per man increased 0.2 per cent. It was stated that no special improvements in machinery or organization were instituted during this time.

Throughout this investigation there was found a very general feeling that it is more difficult to maintain production through reducing hours in industries largely dependent upon machinery which has already been speeded up almost to the limit of efficiency. Speaking in general terms, it might be stated that where the machine follows the worker shorter hours will usually result in production being maintained and occasionally increased; in occupations where the worker follows the machine, production is more likely to decrease, sometimes almost in proportion to the number of hours decreased. In this connection it is interesting to find the following statement in the report for 1919 of the chief inspector of factories and workshops in England:

When the production depends almost entirely on the speed of machinery—as in cotton or woolen spinning—the output is said to be reduced in a proportion nearly, if not fully, corresponding to the reduction in hours. In other machine operations which call for constant alertness on the part of the operator (e. g., weaving) output has not suffered to this extent, and, in exceptional cases, has scarcely been affected at all. In a third class of process, where output is largely or entirely dependent upon the exertion of the worker, there is frequently no loss in production; indeed, in one wholesale tailoring establishment an increase of 40 per cent is reported (partly due to reorganization); while in a boot factory, where the hours of work were reduced from 52 to 48 per week, there was a considerable increase in output.

In industries where the processes are such that an increased rate of production is hardly possible, compensation for decreased output caused by shorter hours of work must be looked for over a considerable period in the better health and contentment of the workers, resulting in less absenteeism, fewer accidents, and a decreased labor turnover.

Of course the change of hours is not the only element which might tend to lessen production. Lack of material, or material of inferior quality as in the cotton mill cited above, frequently hampers the output of a plant. Several employers felt that increased irregularity in reporting for work was one important factor in lessened output. Many of the manufacturers interviewed reported much absenteeism, due partly to illness but largely, they felt, to the high wages which enabled the workers to take a day off when they wished. Actual figures on this subject were difficult to obtain, but in one case the possibility appears that this "absenteeism," of which so much has been heard, may not have increased so alarmingly after all. One manager who complained bitterly about this condition, which recently had become so much more serious, was able, at the request of the Women's Bureau representative, to get actual figures. He found, much to his surprise, that absenteeism in his plant amounted in

January, 1919, to 4.3 per cent of the total time and in January, 1920, to 4.4 per cent, an increase of only one-tenth of 1 per cent.

The improvement of working conditions and the installation of labor-saving devices are very important companions of a reduction of working hours. It was interesting to hear the reports of careful surveys of methods of work and arrangement of material which accompanied the shortening of hours. If the sole result of the shorter hours were to be stimulation to better and more efficient management, it would be sufficient justification for such a measure. The increased conservation of human energy through careful methods and arrangements of work and machinery is part of the great future of industry, and decreasing labor with increasing productivity can eventually mean only a fuller, freer life for all workers.

"Of course," said the manager of one plant reporting increased production and decreased hours, "whenever hours are shortened every labor-saving device is put in and careful efficiency studies are made so that much saving is accomplished. When hours were reduced from 54 to 50 the same methods were used and there was no decrease in output."

The report of another manager in an establishment manufacturing a rubber product in Massachusetts said that when the shorter week was put into effect a careful study was made of each process to see if it was done with as little waste and as much efficiency as possible. Piece rates were not increased but weekly earnings of pieceworkers were the same under the shorter hours. During the year this firm made no change in its selling prices. The cost of labor had been increased, owing to shorter hours, but it had been compensated for by better management and more efficient organization in the plant. The general output of the plant was better under the new week than under the old, but this manager thought that if the same labor-saving devices had been installed under the 51-hour week the output would probably have been greater than under the existing 47-hour régime.

A most striking example of increased output due to the inauguration of shorter hours and a 10-minute rest period in every hour was reported in a factory manufacturing rubber hose. A force of six girls on six machines was turning out an average of 3,000 feet of hose a week. It became necessary to increase production to 25,000 feet of hose a week, while it was impossible to obtain any new machines. At first a night shift of men was put on to operate the six machines, but this arrangement was not successful, as the men were not so attentive workers as the girls had been and turned out a defective product. Another and more successful arrangement was accordingly inaugurated. Two 8-hour shifts of women were installed, making a total working day for the plant of 16 hours. Seven women were employed on each 8-hour shift to attend the six machines which had formerly been operated by six girls working 10 hours a day. Six of these seven women were at the machines while the seventh was

employed as a relief girl and relieved each of the other girls for 10 minutes out of each hour. The relief did not begin until the last 10 minutes of the first hour, but the relief girl helped the others start their machines during the first 50 minutes. The average weekly output under this system was 32,000 feet of hose. The production per girl per hour under the original 55-hour week was 9.1 feet (3,000 feet  $\div$  (6 girls  $\times$  55 hours)). Under the new schedule of two 8-hour shifts a day for six days, 96 hours a week, the production per girl per hour was 24.2 feet. *This was an increase in rate per girl per hour of 166 per cent.* The entire amount of this increase can not, however, be charged against the shorter hours and provision of relief periods, for the speed of the machinery was increased from 40 to 74 revolutions a minute. But even if this increase of 85 per cent in the speed of the machinery had resulted in a proportionally increased rate of production there would still be left an increased rate of 81 per cent which can be directly traced to shorter shifts and the relief periods.

A manufacturer of belting in Massachusetts told the investigators that in 1918 he employed 28 women 52½ hours a week. Their pay, on a time rate, was \$8.87 a week. In October, 1919, he was employing 8 women 48 hours a week, at a weekly wage of \$14.12. The rate of pay had increased as soon as the 8-hour law went into effect; "and now," he said, "we are doing more business with fewer employees and women on shorter hours than ever before."

### METHODS OF SECURING REDUCTION OF HOURS.

On the whole, opinions as well as definite facts given by the managers of the various factories seemed to show that a reduction of working hours was a good thing from their point of view. The best method of obtaining that reduction, whether by law or by arrangement between the workers and the employers, was not so unanimously agreed upon. A representative of the Associated Industries in Massachusetts said he felt that the general sentiment of manufacturers was against legislation and more in favor of agreements with the workers themselves through their organizations. He thought that the benefit to be derived from legislation depended entirely upon the way it was administered and that this administration was often more harmful than helpful. On the other hand, agreements between employers and employees were, in his opinion, easy to change, whereas legislation could not be undone so easily.

The weak point in this statement was strikingly brought out by a representative of the National Amalgamation of Textile Workers. In spite of his position in the trade-union movement this man said that he believed general labor legislation to be a good thing. He said:

Of course, certain industries need legislation and benefit by it more than others, but it does not harm any workers in any industry. The textile industry employs so

many women and minors, and the workers represent so many nationalities, that it is hard with this conglomerate mass of workers to enforce their demands or agreements through the organization. For example, the cotton textile workers generally have an agreement with the manufacturers for a 48-hour week. In Massachusetts, because of legislation, this 48-hour week is easy to enforce. In Rhode Island there is an agreement between the workers and the manufacturers but no legislation, so enforcement is very difficult, the agreement is often not lived up to, and there is continuous feeling and strife about it. Having a 48-hour law doesn't prevent an organization from trying for shorter hours, and if there isn't any law there is nothing to prevent the manufacturers from trying to get longer hours, and that means fighting all the time.

By whatever means it was brought about, however, there was almost no evidence of any desire for a return to longer hours after the 48-hour week had been given a trial, from the manager, who felt it was "bound to come" and the one who said "you couldn't get a manufacturer in Massachusetts to go back to the 54-hour week" to the girls who said they would even be willing to get less pay to have the shorter hours.

### DISCRIMINATION AGAINST WOMEN.

In only one case was it found that the restriction of women's hours was going to restrict their opportunities. The Massachusetts manager of an electrical appliance factory told a representative of the Women's Bureau that he found the work of women perfectly satisfactory and would hire more of them *if he could work them overtime*. But because under the law he could not do this he would hire no more women. It would seem that the necessity to forego the opportunity to "work overtime" would not be an insupportable hardship for the women employed in this plant, and that the testimony of many other women who had benefited from the shorter day would offset this one evidence of "discrimination."

Substitution of men or minors for women because of the difficulty of arranging women's hours to conform with the law was not found to exist in any of the plants visited. On the contrary, the demand for women workers seemed to exceed the supply in most localities. One manager reported that he had put boys in the stator core-winding department, where only women had previously been employed, but he had done this because he could not get enough women. He said he had found that women were so much steadier and more dependable than men on similar work that he preferred to hire them, even though their hours of work were limited.

None of the many working women interviewed in the course of this investigation reported any discrimination against them since the 8-hour law went into effect, and the great majority reported that the increased time for rest and recreation had been of great benefit and that the decreased working hours had resulted in only a few instances in reduced pay.

## APPENDIX.

**TABLE 1.—Number and per cent of men and women employed in 15<sup>1</sup> rubber establishments in New Jersey in April and October, 1919.**

Number of establishment.	Number of—				Total number.		Per cent of total number employed.			
	Men.		Women.				Men.		Women.	
	April.	October.	April.	October.	April.	October.	April.	October.	April.	October.
	1.....	290	290	95	101	385	391	75.2	74.2	24.7
2.....	194	212	20	23	214	235	90.6	90.2	9.4	9.8
3.....	395	390	70	55	465	445	84.9	87.6	15.1	12.4
4.....	<sup>2</sup> 984	<sup>1</sup> 222	<sup>2</sup> 85	90	<sup>2</sup> 1,069	<sup>1</sup> 312	<sup>2</sup> 92.0	93.0	<sup>2</sup> 8.0	7.0
5.....	780	560	400	380	<sup>1</sup> 1,160	940	66.1	59.6	33.9	40.4
6.....	702	699	197	169	899	888	78.1	80.5	21.9	19.5
7.....	177	258	67	112	244	370	73.0	70.0	27.0	30.0
8.....	100	131	23	20	123	151	81.3	86.8	18.7	13.2
9.....	963	<sup>1</sup> 551	75	98	<sup>1</sup> 1,038	<sup>1</sup> 649	92.8	95.0	7.2	5.0
10.....	748	816	46	53	794	869	94.2	93.9	5.8	6.1
11.....	146	162	33	23	179	185	82.0	88.0	18.0	12.0
12.....	<sup>3</sup> 485	<sup>3</sup> 362	<sup>3</sup> 33	<sup>3</sup> 22	<sup>3</sup> 518	<sup>3</sup> 384	<sup>3</sup> 93.6	<sup>3</sup> 94.3	<sup>3</sup> 6.4	<sup>3</sup> 5.7
13.....	329	351	221	215	550	566	59.8	62.0	40.2	38.0
14.....	393	399	38	46	431	445	91.2	89.7	8.8	10.3
15.....	85	90	167	176	252	266	34.0	34.0	66.0	66.0
Total.....	6,771	7,493	1,570	1,583	8,341	9,076	81.2	82.6	18.8	17.4

<sup>1</sup> Of the 18 factories visited 3 gave no figures on numbers employed.

<sup>2</sup> Numbers given for March as being more representative than April.

<sup>3</sup> Numbers given for January and July as being more representative than April and October.

**TABLE 2.—Number and per cent of men and women employed in 15<sup>1</sup> electric appliance manufacturing establishments in New Jersey in April and October, 1919.**

Number of establishment.	Number of—				Total number.		Per cent of total number employed.			
	Men.		Women.				Men.		Women.	
	April.	October.	April.	October.	April.	October.	April.	October.	April.	October.
	1.....	183	183	50	50	233	233	78.5	78.5	21.5
2.....	150	218	34	36	184	254	81.5	85.8	18.5	14.2
3.....	365	455	90	120	455	575	80.2	79.1	19.8	20.9
4.....	<sup>2</sup> 641	<sup>1</sup> 594	<sup>2</sup> 562	<sup>2</sup> 012	<sup>3</sup> 3,203	<sup>2</sup> 606	<sup>2</sup> 20.0	22.0	<sup>2</sup> 80.0	78.0
5.....	185	184	23	40	208	224	88.9	82.1	11.1	17.9
6.....	395	395	8	6	403	401	98.0	98.5	2.0	1.5
7.....	<sup>3</sup> 337	278	<sup>2</sup> 1,345	<sup>1</sup> 1,110	<sup>2</sup> 1,682	<sup>1</sup> 388	<sup>2</sup> 20.0	21.0	<sup>2</sup> 80.0	79.0
8.....	460	670	80	94	540	664	85.2	85.8	14.8	14.2
9.....	344	461	91	140	435	601	79.1	76.7	20.9	23.3
10.....	1,232	1,326	312	247	1,544	-1,573	79.8	84.3	20.2	15.7
11.....	45	100	300	480	345	580	13.0	17.2	87.0	82.8
12.....	429	498	731	838	1,160	1,336	37.0	37.0	63.0	63.0
13.....	435	479	329	328	764	807	57.0	59.0	43.0	41.0
14.....	2,372	2,623	843	949	3,215	3,572	73.8	73.4	26.2	26.6
15.....	40	45	270	338	310	383	12.9	11.7	87.1	88.3
Total.....	7,613	8,409	7,088	6,788	14,681	15,197	51.9	55.3	48.1	44.7

<sup>1</sup> Of the 19 factories visited, four gave no figures on numbers employed.

<sup>2</sup> Numbers given for March as being more representative than April.

TABLE 3.—*Number and per cent of men and women employed in 15 rubber establishments in Massachusetts in April and October, 1919.*

Number of establishment.	Number of—				Total number.		Per cent of total number employed.			
	Men.		Women.				Men.		Women.	
	April.	October.	April.	October.	April.	October.	April.	October.	April.	October.
1.....	787	834	747	927	1,534	1,761	51.3	47.4	48.7	52.6
2.....	392	263	28	15	420	278	93.3	94.6	6.7	5.4
3.....	1,523	1,338	1,448	1,311	2,971	2,649	51.3	50.5	48.7	49.5
4.....	894	1,400	150	229	1,044	1,629	85.6	85.9	14.4	14.1
5.....	92	106	81	102	173	208	53.2	51.0	46.8	49.0
6.....	740	1,928	494	1,619	1,234	1,547	60.0	160.0	40.0	140.0
7.....	82	94	81	90	163	184	50.3	51.1	49.7	48.9
8.....	68	70	12	17	80	87	85.0	80.5	15.0	19.5
9.....	93	98	234	234	327	332	28.4	29.5	71.6	70.5
10.....	4,055	4,242	567	601	4,622	4,843	47.7	87.6	12.3	12.4
11.....	188	213	161	166	349	379	53.9	56.2	46.1	43.8
12.....	4,413	4,693	2,434	2,438	6,847	7,131	64.5	65.8	35.5	34.2
13.....	385	481	99	123	484	604	79.5	79.6	20.5	20.4
14.....	622	860	103	115	725	975	85.8	88.2	14.2	11.8
15.....	336	388	126	144	462	532	72.7	73.0	27.3	27.0
Total.....	14,670	16,008	6,765	7,131	21,435	23,139	68.4	69.2	31.6	30.8

<sup>1</sup> Numbers given for November as being more representative than October.

TABLE 4.—*Number and per cent of men and women in 10<sup>1</sup> electric appliance manufacturing establishments in Massachusetts in April and October, 1919.*

Number of establishment.	Number of—				Total number.		Per cent of total number employed.			
	Men.		Women.				Men.		Women.	
	April.	October.	April.	October.	April.	October.	April.	October.	April.	October.
1.....	142	119	23	19	165	138	86.0	86.2	14.0	13.8
2.....	43	33	227	180	270	213	15.9	15.5	84.1	84.5
3.....	7,134	8,157	1,622	2,204	8,756	10,361	81.5	78.7	18.5	21.3
4.....	3,383	3,981	570	726	3,953	4,707	85.6	84.6	14.4	15.4
5.....	657	1,500	400	400	1,057	1,900	62.2	79.0	37.8	21.0
6.....	113	104	649	559	762	663	14.8	15.7	85.2	84.3
7.....	493	483	100	85	593	573	83.1	85.1	16.9	14.9
8.....	51	51	231	243	282	294	18.1	17.3	81.9	82.7
9.....	194	333	121	151	315	484	61.6	68.8	38.4	31.2
10.....	85	81	11	9	96	90	88.5	90.0	11.5	10.0
Total.....	12,295	14,847	3,954	4,576	16,249	19,423	75.7	76.4	24.3	23.6

<sup>1</sup> Of the 13 factories visited two gave no figures on numbers employed and one was not running in April.



## PUBLICATIONS OF THE WOMEN'S BUREAU.

### BULLETINS.

- No. 1. Proposed Employment of Women During the War in the Industries of Niagara Falls, N. Y. 16 pp. 1918.
- No. 2. Labor Laws for Women in Industry in Indiana. 29 pp. 1918.
- No. 3. Standards for the Employment of Women in Industry. 7 pp. 1919.
- No. 4. Wages of Candy Makers in Philadelphia in 1919. 46 pp. 1919.
- No. 5. The Eight-Hour Day in Federal and State Legislation. 19 pp. 1919.
- No. 6. The Employment of Women in Hazardous Industries in the United States. 8 pp. 1919.
- No. 7. Night-Work Laws in the United States. 4 pp. 1919.
- No. 8. Women in the Government Service. 37 pp. 1920.
- No. 9. Home Work in Bridgeport, Conn. 35 pp. 1920.
- No. 10. Hours and Conditions of Work for Women in Industry in Virginia. 32 pp. 1920.
- No. 11. Women Street Car Conductors and Ticket Agents. 90 pp. 1921.
- No. 12. The New Position of Women in American Industry. 158 pp. 1920.
- No. 13. Industrial Opportunities and Training for Women and Girls. 48 pp. 1920.
- No. 14. A Physiological Basis for the Shorter Working Day for Women. 20 pp. 1921.

### CHARTS.

- No. I. Eight-Hour and Eight-and-a-Half-Hour Laws for Women Workers.
- No. II. Nine-Hour Laws for Women Workers.
- No. III. Ten-Hour-Laws for Women Workers.
- No. IV. Ten-and-a-Quarter-Hour, Ten-and-a-Half-Hour, Eleven-Hour, and Twelve-Hour Laws for Women Workers.
- No. V. Weekly Hour Laws for Women Workers.
- No. VI. Laws Providing for a Day of Rest, One Shorter Work Day, Time for Meals, and Rest Periods for Women Workers.
- No. VII. Night-Work Laws for Women Workers.
- No. VIII. Home-Work Laws in the United States.
- No. IX. Minimum Wage Legislation in the United States. 3 sections.
- No. X. Mothers' Pension Laws in the United States. 4 sections.